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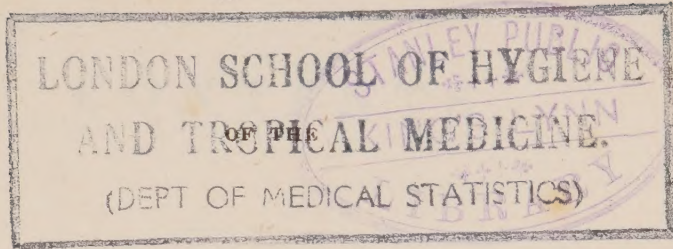


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# JOURNAL



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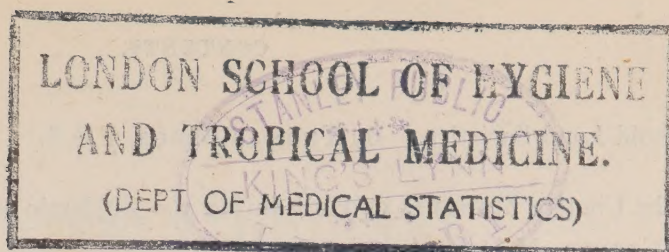
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# QUARTERLY JOURNAL

OF THE

## STATISTICAL SOCIETY.

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MARCH, 1853.

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*The Income and Property Tax.* By WILLIAM FARR, Esq., M.D., F.S.S.

### I.

A CERTAIN number of things in the United Kingdom possess value ; and, because they belong severally to the inhabitants, are called Property. Property is constantly changing—acquiring and losing value. When its forms are multiplied, the resulting value is called produce ; of which agriculture offers the most familiar examples in fruits, grain, and stock. Here is an increase in the number of things of which the property consists. Thousands of grains of wheat, of blades of grass, of the young of sheep, oxen, and horses, are created, in which value is incarnated and visible. Produce appears also in another form ; the increase is in the quantity or characteristic quality of the matter of which each thing of value is constituted ; as when lambs, calves, colts, grow gradually, into sheep, oxen, horses. If you take their value at the beginning and at the end of the year ; you find that although their number has decreased by death for instance, their value has increased : it will go on increasing for months, or for years. The increase in value is indicated, but not measured, by the increase in the number or bulk of the products ; for crops of twice the average quantity will not sell for twice the average sum. The value is measured by money ; by coins of gold and silver, or by any other thing of which the value is, or is assumed to be, invariable for the time : the difference in the amount of money for which either the things proceeding from the property, or of which the property is composed, will sell, is the produce. The forms of produce then are various. Thus, if a stock of horses is worth 5,000*l.* on the first day of the year, and 6,000*l.* on the last day of the year, while 2,000*l.* have been realized by sales during the year, the produce of the stock is  $1,000*l.* + 2,000*l.* = 3,000*l.* Or if a horse-dealer has a young horse worth 20*l.* ; the services of the horse in the year yield 10*l.*, and at the end of the year it will sell for 35*l.*, the annual produce of the horse is  $10 + 15 = 25*l.*$  At a given age the animal attains its maximum value ; and the hire of its services constitutes$



the whole of the produce. Such is the nature of the produce of property in living animals, which may be taken as the type of all property.

Produce then is expressed by the value in money which the property yields during the year, either in separate products, in the increase of value, or in the price of its services. The income of a lawyer, a doctor, a clergyman, a merchant, or a tradesman, is in this sense as much produce as the proceeds of a farm; it is the money value of his services, and of the services of all the instruments and agents in his possession. But anything which yields produce that will sell for money is property, although it may be itself inalienable; consequently, all the free labourers, artisans, professional men, of the United Kingdom, having within them this power of production, are as essentially property as the things usually designated by that name, and characterised as personal or real, movable or immovable. Exclusive of all his external property, every man is worth something.

I propose to call the property inherent in a man his Inherent Property; and all other property of which he has possession, External Property. All the produce of property evidently includes pre-existing value. Thus the produce of a farm includes the value of materials, of wear of stock, of labour, and skill which have been expended in its production; so, also, do the proceeds of a manufactory, a shop, a mercantile concern of any kind, a class of professional men. The difference between the value of the produce and its cost is profit, which is consequently increase of value. When the cost exceeds the value of the produce, the result is designated loss; and although this negative quantity is the result of innumerable transactions, the aggregate result of the enterprises which are carried on is profit; as the value of all the property in the hands of man increases, and, after replacing the value of inevitable labour, leaves a surplus at his disposal for his enjoyment, gratification, and delight.

The interest of money in perfect security is the expression of this profit, at any given time, in any given country. And the rate of net profit now in England is, I conceive, nearly expressed by 3 per cent. per annum. The rate of profit, in the popular sense, is much higher; but in that sense the word can scarcely be used with advantage in science. A merchant having capital engaged in commerce, has a surplus in the produce of the year; and sometimes mistakes for the profit of his *Capital* this produce *minus* the current expenses of the year; whereas the profit of the capital is only obtained by a further deduction of a premium for insurance on the property, and of the wages of his industry; the wages, as I shall immediately show, consisting also of produce—that is, partly of the increase of the property which is invested in the nurture, education, and professional training of the class to which he belongs, and partly of a portion of that property. Profit in this vague sense may be at the rate of 5, 10, 20, 100, or 1,000 per cent. on the *stock*—that is the external property—which is engaged in the business, trade, or profession.

The interest of capital, which is property in a particular form, can invariably be resolved into two, if not three, variable elements—the profit, the premium of insurance against loss, and the reward of skill, in some cases, of making investments. The latter element may for the moment be left out of consideration. Then, if 3 per cent. is profit, 2 per



cent. covers common risks of loss; hence 5 per cent. is in England a common rate of interest on engaged capital. No foreign Government can now borrow any large sum of money at a rate of interest lower than 5 per cent.; the 2 per cent. being, I conceive, the premium of insurance against loss of profit and capital. Property exists in an infinite variety of forms: thus, there is property in land, in houses, in railways, in canals, in mines, in metals, in manufactories, in fisheries, in stock in trade, in farm stock, in the bodies of the industrial classes. The specific produce of each kind of property varies infinitely in amount; and the proportions in which profit and pre-existing capital enter into the various kinds of produce also vary infinitely. These quantities and proportions fluctuate from year to year in different classes of property; but, on the average, the rate of profit on every kind of property is equal. For if property of any kind yields a profit above the average, it is by a transfer of capital produced in larger quantities, until the price is reduced so as to leave only the average profit; and conversely. It is true that the quoted rates of profit on every kind of investment, as well as the rates of wages in different trades, and the prices of commodities from year to year, vary. But these rates must not be confounded with the actual profits realized. The Portuguese Four per Cents. are quoted at  $40\frac{1}{2}$ , the Spanish Three per Cents. at 49, English Three per Cents. (Consols) at  $100\frac{1}{4}$  in the "Times" of to-day (January 12); and the rate of interest on investments in these three stocks will, therefore, be 10, 6, and 3 per cent. respectively; besides the value of the chance of being paid off when Spanish and Portuguese stocks are at par. What the actual result of a single investment in each of the stocks may be it is impossible to say; but it will probably be found, if the profit of all the investments which have hitherto been realized in the three kinds of stocks is ever investigated, that the balance is not on the side of the stock on which either 10 or 6 per cent. interest is promised.

No constant relation exists then between the value of property and of produce, or between stock and the nominal rates of interest; but there is, in every kind of property, on a series of years, a steady relation between property and profit.

A large quantity of the property of the country—such as furniture, jewels, the precious metals, cash, pictures, parks—is often called unproductive; but, I apprehend, erroneously. All these things have been purchased with money, and may again be converted into money, the representative of capital, which can always be invested productively; and if, instead of investing 10,000*l.* in land, which would produce 300*l.* a-year, you invest it in furniture, pictures, or jewels, it is evident that you select this investment because property in such a form yields services which you esteem at a higher value than 300*l.* a-year. These services are products; and the property is, therefore, productive. When an object ceases to be serviceable, and ceases to be exchangeable for value, it ceases to be property, and at the same time ceases to be productive.

The Income of the year taken generally is the sum of the year's Produce; which, it will be recollected, consists partly of profit and partly of pre-existing property; and while the *Incomes* of some of the 28 millions of people in the United Kingdom are almost entirely profit, the incomes of others consist entirely of pre-existing property.

This Income is expended by each member of the state—(1), individually—in families; (2), in voluntary associations for specific purposes, such as clubs, societies, colleges, commercial companies; (3), in townships, parishes, boroughs, counties, on local purposes, or in what is sometimes called local government; and (4), in his collective capacity as a member of that great society—to use Aristotle's designation—the *State*. The ordinary revenues and extraordinary resources constituting the public *Income* of the United Kingdom for the year ending January 5, 1852, amounted to 56,834,711*l.*; of which 56,271,257*l.* are called in the public accounts the ordinary revenue, including 378,783*l.* from the Crown lands and small branches of the hereditary revenues; 22,197,075*l.* from customs dues; 15,400,420*l.* from excise duties; 6,529,050*l.* from stamp duties; 2,422,168*l.* from the post-office; 3,789,984*l.* from the land and assessed taxes; 5,440,350*l.* from the income tax; 113,426*l.* from the surplus fees of regulated offices, &c. If we deduct the receipts from Crown lands, the public income is in the proportion of about 2*l.* a head on the population. The income tax, which has been levied annually since 1842, is less than one-tenth part of the public revenue, and less than 2 *florins* a head on the population.

The Revenue of the State is that portion of the produce which is expended in common; in the discharge of common duties, on national objects, institutions, works, achievements. The protection of the property and lives of the people is its main, but not its paramount object; for it is not, happily, the destiny, either of a State or of an individual, to expend all its energies on self-preservation.

The State, out of its revenues, has (1) to fulfil all its engagements with the public creditor, and thus to preserve the public faith inviolate—protect our honour; (2) protect life and property; (3) maintain its own existence and greatness in the political and social institutions of the country; (4) promote education, culture, art, science, and religion; (5) work out historical achievements, in which the whole strength of the nation is exerted, as it would be, for example, to repel an invasion,—acquire, as England has done, large territories, free slaves, avert wrongs, redress violations of the law of nations, found great colonies; to secure its immortality, and transmit its life as well as its glories to new nations in this and in the other hemisphere. Such are some of the purposes on which the annual revenue of the United Kingdom has been—should be expended; and to all such purposes there can be no doubt that every person who is in, or has property in that great Company, his Country, should contribute; and no more obviously just rule for determining the quota of his contributions can be laid down than this:—

That each member of the community should contribute every year to the public expenditure in a fixed proportion to the amount of Property in his possession during that year.\*

For no more exact measure of his ability and duty to contribute to the public revenue can be found than the value of his property supplies. As it is the measure of the loss against which he is insured by the State, it is also the measure on which his contributions to the public Exchequer should be rated. “The subjects of every State,”

\* See the Evidence taken by the Committee of the House of Commons on the Income and Property Tax, 1852, No. 510, Q. 4895—9.



says Adam Smith, in his first maxim on taxes,\* “ought to contribute towards the support of the Government, as nearly as possible, in proportion to their respective abilities; that is, in proportion to the revenue which they respectively enjoy under the protection of the State. The expense of Government to the individuals of a great nation is like the expense of management to the joint tenants of a great estate, who are all obliged to contribute in proportion to their respective interests in the estate.”

This celebrated maxim of Adam Smith—even restricted as it is unnecessarily in the second clause of the first sentence—would be strictly applicable to the taxation of the kingdom, if the revenue of every subject was derived from the same source; for as the dividends of A, B, and C, in a public company are in exact proportion to their stock, their respective contributions to the common expenses is proportional as well to their dividends as to their stock; and, if a call is made, each individual contributes, without question, in the ratio of his shares—in the ratio, therefore, of his income, which it is here assumed is all derived from the same fund. If A, B, and C have incomes derived from the Three per Cent. Consols of 1,000*l.* 2,000*l.* 3,000*l.* a-year respectively, and each is taxed 30*l.* 60*l.* and 90*l.* a-year, they will be taxed equitably as between themselves, in the ratio of their respective properties, whether their stock will sell for 33,333*l.*, 66,667*l.* 100,000*l.*, or half those sums. Again, if all the incomes of the subjects of the State were of the nature of Long Annuities, which are now quoted at 6½, each individual's revenue, consisting partly of profit, but chiefly of capital, would be strictly in proportion to the value of his property, and a tax may be equitably rated either on the revenue or on the property. So if the community was represented by the persons in this society, of the same age, whose incomes were derived from a profession, they may be taxed either at an equal rate on those incomes or on the value of those incomes; and few would have any just ground of complaint. But the fact is, that the revenues of different classes of the community are the produce of different kinds of property, and the uniform tax on this produce—called *Income*—is neither proportional to the profit, property, or ability of the taxpayer. Thus, in the present year—

	£	£
A has property	33,333 in Consols; income.....	1,000
B has property	6,500 in Long Annuities; income ...	1,000
C has property	15,000 in houses; income .....	1,000
D has property	30,000 in land in England; income....	1,000
E has property	17,000 in land in Ireland; income...	1,000
F has property	10,000 in Life Annuities; income ....	1,000

If the revenue expresses the value of these properties, it is evident that you might exchange the Consols for the life-annuity; if you admit that the one is more than three or five times as valuable as the other for sale, you cannot contend for a moment that it is equal to the other in levying a tax on their owners. It will be immediately seen, in conformity with the principle previously laid down, that though the incomes are the same—the produce is the same—the *Profit* is in proportion to the value of the respective properties. Thus the year's interest on 33,333*l.* in Consols is 1,000*l.*; the interest on the 10,000*l.* invested in the annuity

\* Book v., c. 2, part 2.

is 300*l.*; the additional 700*l.* composing the annuity of 1,000*l.* is pre-existing capital returned. The original statute, 5 and 6 Vict., c. 35, which is popularly called the Income Tax, is not so entitled; it is "An Act for granting to Her Majesty Duties on PROFITS arising from Property, Professions, Trades, and Offices." The profit, it has been shown, is proportional to the property; and is connected with it by a constant factor, often called the year's purchase. In the execution of the Act, it is assumed throughout that *Income*—one kind of *produce*—is *profit*; that the annuity of 1,000*l.*, which, reckoning interest at 3 per cent., is valued at 6,473*l.*, is profit; that the life-annuity, including the capital invested, is profit; that the rent of houses is profit; that the income of merchants and tradesmen is profit; that the gross rent of land is profit, in the true sense—as much as the interest of money in perfect security, or the net rent of land.

The property of the country is divided for the purposes of the Act into five classes, comprehended under five schedules:—The following is an abstract of the returns for the year ending the 5th day of April, 1851.—Deduced from Par. Return, 1852, Nos. 398, 480.

A. Rent of land, houses, mines, tithes, dividends of canals, railways, gas works, other immovable property.

Incomes Assessed.		Incomes on which the Tax was Paid.		Income Tax at 7 <i>d.</i> in the £1.
£		£		£
A. 105,529,971	.....	90,570,171	.....	2,641,630

B. Profits of occupiers of land—Farmers.

Incomes Assessed.		Incomes on which the Tax was Paid.		Income Tax at 7 <i>d.</i> in the £1.
£		£		£
B. 48,023,508	.....	10,647,291	.....	310,546

NOTE.—The rent is the basis of this assessment. It is assumed in the Act that the farmer's profit is in England equal to half the rent ( $\frac{1}{2}$ th rent), in Scotland ( $\frac{5}{14}$ th rent).

C. Dividends and annuities payable out of any public revenue.

Incomes Assessed.		Incomes on which the Tax was Paid.		Income Tax at 7 <i>d.</i> in the £1.
£		£		£
C. 26,435,182	.....	25,583,452	.....	746,184

E. Salaries and pensions payable by Her Majesty out of the public revenue of the United Kingdom. Also some other salaries.

Incomes Assessed.		Incomes on which the Tax was Paid.		Income Tax at 7 <i>d.</i> in the £1.
£		£		£
E. 11,690,853	.....	11,366,983	.....	331,537

D. (1) Annual profits or gains to any person in Great Britain from any property whatever, in or out of Great Britain.—(2). Profits or gains from any profession, trade, employment, or vocation, accruing to any person in Great Britain. [All not included in previous schedules.]

Incomes Assessed.		Incomes on which the Tax was Paid.		Income Tax at 7 <i>d.</i> in the £1.
£		£		£
D. 65,717,048	.....	53,266,800	.....	1,553,615



The "total amount of income [called property (?) in the return] assessed," according to the heading, is 257,396,562*l.*; the income on which the tax was paid amounted to 191,434,697*l.* The returns require explanation: the tax is not levied on property in the possession of persons in Great Britain whose income is less than 150*l.* per annum; nor on the property in Ireland of any persons who reside out of Great Britain. So that we only know with any accuracy that the income of Great Britain belonging to persons who return incomes exceeding 150*l.* is at least 191,434,697. If each item were discussed, it might be shown that the incomes under these several schedules bear no constant proportion to the property, or to the profit on that property, in the possession either of the classes or individuals of whom the classes are composed. I will only notice three cases. I will take of the class C all the incomes derived from the Three per cent. Perpetual Annuities, which now return 3 per cent. interest. The man who invests 10,000*l.* in the stock of these annuities at par, obtains an income of 300*l.* a-year; and at the rate of 7*d.* in the *l.* on his income (equal  $\cdot 02916$  in the pound on profit), is taxed 8*l.* 15*s.* annually; that is, at the rate of 17*s.* 6*d.* per 1,000*l.* on his property ( $\cdot 000875$  in the pound on property).

There is another large class of life annuities—on equally good security. The life annuity which the same sum will purchase at the age of childhood or old age is very different: but taking the average value of an annuity on the life of every male of the age of twenty and upwards, I find that it is worth 14·951 years' purchase; consequently, 10,000*l.* on each life will purchase annuities of 668·869*l.* on an average (equal 668*l.* 17*s.* 5*d.*); the tax on which is 19*l.* 10*s.* 2*d.* annually.

Persons having incomes from several properties returning equal profits (3 per cent. interest), pay in the one case 7*d.* in the pound, in the other 15½*d.* per pound on their annual profit; or at the rate of 17*s.* 6*d.* in one, and of *l.* 19*s.* per 1,000*l.* per annum, in the other, on the property. Now, the greater part of the incomes under Schedules B, D, and E, are incomes derived from stock in trade, and from the professional exertions of the industrial, learned, and educated classes. I presume that no capitalist would embark at risk as a sleeping partner 10,000*l.* in any of these businesses or professions, at a rate of interest below 5 per cent. on his money, or unless, in ordinary years, his income from it was 500*l.*; because in a large number of such investments, in average concerns, the capital is lost, and in others makes no profit. The tax on 10,000*l.* so invested would be 14*l.* 11*s.* 8*d.* Stock in trade is therefore taxed at the rate of at least *l.* 9*s.* 2*d.* per 1,000*l.* on its value, 11⅔*d.* in the pound on its net profit.

It is evident that the professional income of clergymen, lawyers, medical men, mercantile men of every kind, is to them worth much less than equivalent life-annuities well secured. I mean that income which is the direct produce of services, and ceases when the ability to perform those services ceases. I have shown that life annuities, well secured, independent of services, are worth on an average fifteen years purchase (14·951), while perpetual annuities at the same rate of interest are worth 33⅓ years' purchase; consequently, the taxation, to be at an equal rate on the *property*, ought to be in the ratio of less than 45 to 100 on the produce—the *incomes* of the two classes.

The table to which I now direct your attention shows that the in-

comes consisting of wages are of still lower value, (see p. 42.) A whole generation of the class of agricultural labourers (males), consisting of 2,096 individuals of all ages, 1,356 adults of 20 and upwards, would be worth 303,900*l.*, on which their wages would be 14 per cent. per annum, the cost of their maintenance 9 per cent., leaving a return of 5 per cent. on the capital embarked in the living property. You must therefore deduct from the value of industrial incomes a certain amount as the value of the cost which must be incurred in obtaining the produce of the inherent property.

In practice it is unnecessary to enter into nice refinements, as all deductions from produce are allowed for in the average market value; and as we know that land, houses, stock of every kind and annuities can be valued, and are valued every day for the purposes of business and commerce, they may also all be valued for the purposes of taxation in this country, from returns more simple, and involving no more disclosure than those now in use. The principles on which simple tables may be calculated for determining and taxing nearly all the property in the country are discussed or indicated in the subsequent mathematical part of this paper.

A summary view of the operations of an Income, and of a Property Tax, on different kinds of property, is given in the annexed table. The *principle*, it must be borne in mind, is not affected by any variation in the assumed “price,” “profit,” or uniform “rate” of taxation.

Table (I.) of *nine* Properties of equal value, (10,000*l.*) in the hands of nine persons, A, B, C, &c.; of the estimated net profits of the several properties; of the gross income returned in the year; of the *equal taxes on each property at a given rate*, which may be raised or lowered; of the taxes on each property under the present income tax assessment.

Table (II.) of *nine* Incomes of equal amount, (1,000*l.*) during the year, in the hands of nine persons, J, K, L, &c., with the same particulars.

The whole question affecting the equity of the income tax can be discussed on these tables. Under an equitable system of taxation, the eighteen persons are assessed on the sums in the 3rd column; and at the rate of 1*l.* per 1,000*l.*, or of 2*s.* per cent. on the capital, pay the taxes in column 6.

Under the present income tax, the eighteen persons are assessed on the incomes in column 5; and at the rate of 7*d.* in the 1*l.* on income, pay the taxes in column 7.

Table (I.) may be read thus: C has long annuities worth 10,000*l.* at  $6\frac{1}{2}$  years' purchase; the interest or profit at 3 per cent. is 300*l.* a-year; the annuity is 1,538*l.* until 1860; the equitable *tax* is at the rate of 3*l.* 6*s.* 8*d.* per cent. on profit, or 1*l.* per 1,000*l.* on property,—10*l.*; the income tax is 44*l.* 17*s.* 2*d.*

In the nine cases, the properties are of values equal to 10,000*l.* Now persons having properties of equal value can exchange those values without loss; and as they are generally in the market, it is evident that—all other things being equal—if the *profit* was greater in one class of securities than in another, those securities would speedily rise in value until the profits were in equilibrium.

The value of property is the only infallible index to average profit, and is in all cases the true basis of equitable taxation. Here it is assumed that the profit is at the rate of 3 per cent.



Table (II.) may be read thus: M has land in England worth, at 27 years' purchase on the rental, 27,000*l.*; returning an annual rent of

*A Property and an Income Tax contrasted.*

TABLE I.—(The Nine PROPERTIES are of equal value.)

(1.) Nature of Property.	(2.) Price.	(3.) Value of Property.	(4.) Average Profit(?) (Net).	(5.) Gross Income, Rent, or Dividend.	(6.) Equitable Tax at the rate of £1 per £1000 on Property. 8 <i>d.</i> per £1 on Profit.	(7.) Present Income Tax of 7 <i>d.</i> in the £1.
		£	£	£	£ s. d.	£ s. d.
A. Consols .....	100	10,000	300	300	10 0 0	8 15 0
B. Consols .....	80	10,000	300	375	10 0 0	10 18 9
C. Long Annuities .....	Yrs. Purch. 6½	10,000	300	1,538	10 0 0	44 17 2
D. Land in { England.....	27	10,000	300	370	10 0 0	10 15 10
{ Ireland*.....	17	10,000	300	588	10 0 0	17 3 0
E. Houses .....	15	10,000	300	667	10 0 0	19 9 1
F. Railway Stock .....	20	10,000	300	500	10 0 0	14 11 8
G. Well-secured Life An- nuity (Age 45).....	16	10,000	300	625	10 0 0	18 4 7
H. Life Annuity at risk (Age 45) .....	13	10,000	300	769	10 0 0	22 8 7
I. Professional Income (Age 45) .....	11½ <sub>10</sub>	10,000?	300?	847	10 0 0	24 14 1

TABLE II.—(The Nine INCOMES are of equal amount.)

(1.)	(2.)	(3.)	(4.)	(5.)	(6.)	(7.)
		£	£	£	£ s. d.	£ s. d.
J. Consols .....	100	33,333	1,000	1,000	33 6 8	29 3 4
K. Consols .....	80	26,667	800	1,000	26 13 4	29 3 4
L. Long Annuities .....	Yrs. Purch. 6½	6,500	195	1,000	6 10 0	29 3 4
M. Land in { England.....	27	27,000	810	1,000	27 0 0	29 3 4
{ Ireland*.....	17	17,000	510	1,000	17 0 0	29 3 4
N. Houses .....	15	15,000	450	1,000	15 0 0	29 3 4
O. Railway Stock .....	20	20,000	600	1,000	20 0 0	29 3 4
P. Well-secured Life An- nuity (Age 45).....	16	16,000	480	1,000	16 0 0	29 3 4
Q. Life Annuity at risk (Age 45) .....	13	13,000	390	1,000	13 0 0	29 3 4
R. Professional Income (Age 45) .....	11½ <sub>10</sub>	11,800?	354	1,000	11 16 0	29 3 4
(1.)	(2.)	(3.)	(4.)	(5.)	(6.)	(7.)

\* Irish landed proprietors residing in Great Britain pay income tax on the actual sums annually received by them in Great Britain.

1,000*l.*, of which only 810*l.* is net, after deductions for repairs, losses, &c.; the equitable tax is 27*l.* annually, at the rate of 1*l.* per 1000*l.*, on property; 8*d.* per 1*l.* on profit. It is, at 7*d.* in the 1*l.* on gross income, 29*l.* 3*s.* 4*d.*

Although the incomes of the year are all equal in these 9 cases, and they are taxed at the same uniform rate under the income tax, the *values* of the properties range from 6,500*l.* to 33,333*l.*

It is quite evident that the "abilities" of J and L, for example—are not equal; for J is worth 26,833*l.* more than L, and could if he chose, by investing his capital in long annuities, expending the interest and reinvesting every year the returning capital, obtain a nominal income of more than 5,128*l.* a-year. And so in other cases.

The nine persons in possession of *equal incomes* cannot exchange the titles to those incomes—on equal terms—in the market. In this they differ entirely from persons in the possession of properties of equal value.

I have proved that a tax at a uniform rate per cent. per annum on all the property inherent and external in the United Kingdom, may be justly entitled equitable. And I have proved, I think, that the tax called a tax on profits is, as it is levied, a tax on income—a tax rated on the profit of one class—on the produce of another—and therefore unjust and inequitable.

The first proposition will probably be admitted by those who have hitherto held that an Income Tax is a just tax; and after the best consideration which I have been able to give to the subject, I freely make this concession, that an Income Tax, inequitable as it is, is less inequitable, and interferes less with the production and commerce of the country, than the taxes which have either been repealed by its imposition, or still remain a part of the fiscal system of the kingdom. The inequality in the pressure of the Income Tax is not compensated but aggravated in the other taxes.

Our revenue system has, it is true, now been rendered less objectionable than that of any of the other great countries of Europe: it presses less on the industry of the people, is collected better, is certainly less oppressive to the classes who live on wages. A reference to the tariffs and taxes of the respective countries, places this beyond doubt. Mr. Laing, in his *Observations on the state of the European people*,\* and M. Emile de Girardin in his work on the taxation of France (*L'Impôt*), show that inequality, interference, expense, and complexity, characterize the fiscal system of the continent. All Adam Smith's maxims are there violated: prohibition, monopoly, conscription, the salt tax, are the types of that system.

Our taxes are levied on imports, on the manufacture or sale of various articles, on certain kinds of property, on locomotion,—without any direct reference to the respective means of the people by whom the taxes are ultimately paid. No one has yet been able to calculate in what proportion the 37,597,495*l.* of revenue, collected under the heads Customs and Excise, fall on different classes of the population—on families, or on individuals. In this branch of the public revenue—paid indirectly—the question of equitable taxation does not arise and can scarcely be discussed. The rates of taxation have

\* pp. 298, 301—2.



been for many years so high, as to be prohibitive in some cases, and prejudicial to the revenue in others. The amount of the revenue has increased, as the rates of the tariff have been depressed. Under the complicated system of the Stamps and Taxes, property in different forms, in the hands of different owners, is taxed at all rates varying from *zero* to 10 per cent. on the value. The land tax is levied on the assessed values of property in the 17th century: on some landowners the charge is heavy, on others light as a feather. A large deduction is made from personal property, at the death of every generation of its owners: on monies arising from real estate, land and houses devised to be sold, the tax is levied; the owners of all other land escape. Persons who insure their furniture, houses, and ships, pay 1,307,212*l.* a year; persons who do not insure their furniture, houses, ships, escape the tax; large house and ship owners, and the owners of other property not requiring insurance, pay no corresponding tax. Farm stock, insured, pays no duty. The house tax is either an unjust property tax, or a bad income tax,—graduated in the wrong direction,—so as to bear twice or thrice as heavily on low as on high incomes. 327,362*l.* out of the total tax of 707,018*l.*\* is paid by the inhabitants of Middlesex and Surrey, who return 25 out of 654 members of the House of Commons: certain goods sold are taxed, others are not taxed, on every transfer, by receipt and exchange stamps: nearly all transfers of real property are taxed; and as different properties are transferred at *intervals* of *time* ranging from days to centuries, the conveyance stamps operate unequally. Under settlements, “definite and certain sums of money, Government Stock, Bank, East India, South Sea Stock” are charged; land escapes. Some stock is taxed on transfers. A tax is levied, directly or indirectly, on persons who keep or travel in certain carriages, or ride on certain horses; persons who ride on other horses, in other carriages, are not taxed. Persons who employ domestic servants of one class are taxed; others are not taxed.

Under the heads of Customs, Excise, Stamps, and Post Office: Great Britain paid 42,279,483*l.*, Ireland 4,268,830*l.*, in the year 1851. Great Britain paid  $\frac{1}{11}$ ths of this taxation. Great Britain paid besides 9,230,334*l.* in income tax, and assessed taxes; Ireland nothing.† Thus, while the taxes, which are generally supposed to be paid in undue proportion by the poor, are levied in Ireland, incomes above, as well as below 150*l.*, houses, carriages, horses, horsedealers, persons keeping male servants, wearing hair-powder, having armorial bearings—sportsmen in Ireland, the owners of land, and all property generally—are exempt from a class of taxes, which judging by analogy, ought to yield in Ireland, at least 923,033*l.* annually; yet it is for the protection of this untaxed property, that a large division of the army and a constabulary police, which was paid 560,126*l.* out of the consolidated fund of the United Kingdom, in the year 1851, is stationed in Ireland.

The practice of taxation in England, and still more in other countries, is, it must be admitted, regulated by maxims very different from that of Adam Smith, or from that to which I have called your attention. “The truth is,” says Mr. McCulloch, in his work on taxation, “that the greater number of taxes, including, we believe, every

\* Parl. Paper, 1852, No. 54.

† See Table, p. 12.

one that is least injurious (?), are imposed on a totally different principle from that laid down in the first of Smith's maxims."† The practice of finance in modern times has been governed by such principles as follow: (1) Encourage—by increasing the prices—certain home productions, either by bounties, or by excluding the competition of foreigners: (2) Regulate your foreign relations and commerce by duties on imports or exports: (3) Discourage the consumption of articles, which, like spirits, are noxious; or are not indispensable, as tobacco: (4) Levy the taxes on many articles, in small sums, indirectly, so that the contribution to the revenue, may be concealed in the price of commodities or services:§ (5) Whenever property is converted into money by transfer, and its value is thus known, seize a part of the money: (6) Intercept produce at its source or on its passage to the pocket, and thus save the tax payer unpleasant annoyance, the tax collector trouble: (7) Let the payment of taxes appear to be in a certain sense voluntary, or depend upon some contingency: and generally, wise as serpents, harmless as doves, (8) Collect the taxes at any source from which they can be most readily obtained.

The only taxes that are collected in the United Kingdom, directly from the taxpayers, are 2,646,156*l.* of the assessed taxes; a part of the 1,142,906*l.* of land tax; the 1,864,161*l.* under the income tax

*Revenue Collected in the Year, January 5, 1851-2. Drawbacks, Repayments, &c., are deducted.*

	Collected in		
	Great Britain.	Ireland.	The United Kingdom.
	£	£	£
(1) Customs .....	20,118,970	2,078,105	22,197,075
(2) Excise .....	13,882,598	1,517,822*	15,400,420
(3) Stamps .....	6,061,007	468,043	6,529,050
(4) Post Office .....	2,217,308	204,860	2,422,168
(1—4) Total .....	42,279,883	4,268,830	46,548,713
(5) Land and Assessed Taxes .....	3,789,984	Nil.	3,789,984
(6) Income and Property Tax .....	5,440,350	Nil.†	5,440,350
(1—6) Total .....	51,510,217	4,268,830	55,779,047

The revenue which is derived from pensions, crown lands, the small branches of the hereditary revenue, surplus fees, and other resources, are omitted. See Finance Accounts, i.—viii., 1852, No. 196, p. 10, *et passim*.

\* In Great Britain excise duties are also collected on the following articles, which are not charged in Ireland: hackney-carriages, 88,032*l.*; post-horses, 145,432*l.*; stage-carriages, 217,052*l.*; railways, 287,332*l.*; soap, 1,043,027*l.*; amounting in the aggregate to 1,780,875*l.* The hop duties paid in England were 426,208*l.*

† Irish proprietors who reside in Great Britain pay on the actual sums annually remitted to them.

‡ Mr. M'Culloch's book contains a luminous and authentic digest of the existing system of Taxation.

§ Montesquieu has a chapter on taxes headed: "Comment on conserve l'illusion." Machiavelli alone could do the subject justice.



in Schedules B and D, and a part of Schedule A; making probably in the aggregate little more than 5,000,000*l.* 50,000,000*l.* of the public revenue is collected indirectly, under a vast complicated system. The coasts are encircled by the Customs, the inland regions are occupied by the Excise and Stamps. In licenses, which are of an intermediate character, charged on the seller, paid generally by the buyer of goods, 1,160,571*l.* were raised in the year 1851 by the Excise, 224,317*l.* by the Stamps.

Little can be alleged in favour of the success or wisdom of the attempts to regulate private expenditure by sumptuary laws. Is it quite certain, for instance, that the tax on masters who keep male servants, is not rather a tax on wages, than a tax on luxury? that the tax on carriages is not a tax on coachmakers, as much as a tax on subjects "rolling in riches?" can locomotion, travelling, and intercommunication of every kind, be loaded with taxation, while stillness and repose are untaxed, without impeding the circulation of labour, goods, and thought—without damping the life of the nation? Why should obstacles be thrown in the way of sales, transfers, insurances of property? Is not the value of land depressed, interest on mortgages increased, more by uncertainty of title, and difficulties of transfer, than by all its other burthens?

Under a system of indirect taxation, an intelligent, free nation necessarily pays and sacrifices more than it does under an equitable system of taxation, chiefly levied directly. The expense of the indirect collection is large; the capital which is advanced in taxes, by the various classes of traders, remains at risk, until they are reimbursed by the consumers; and the interest, necessarily at a high rate, enhances the prices of commodities to an incalculable extent. The prices of the taxed articles are also raised by the virtual monopoly, almost always created, when the tax is productive, as in the case of malt and spirits. Foreign commerce is fettered by restrictions on the exchange of commodities; production at home, is repressed, by interferences with the processes of manufacturers. It is impossible to estimate either the total cost or the incidence of indirect taxation.

The rent of land under the feudal system was levied indirectly; and paid on a multitude of contingencies, as taxes are levied now, from the various orders of tenants; and it was only gradually, and almost imperceptibly, that the system of rents and rent days found its way into use. No one doubts in England, the infinite superiority—or questions the advantages to tenants—of the system of direct payment in money, over any other system of rents, any more than the superiority of the system of rates in towns over the continental octroi system.

The tenants of a great estate would scarcely accept, and would certainly derive little benefit from the acceptance of—a proposition such as the following, if proclaimed by their landlord: "Rent shall no longer be paid on this estate; but I will raise my revenue indirectly, and almost imperceptibly: recurring rent days, distresses, stewards, collectors, shall no longer oppress you: I will surround the estate not with walls but with a band of officers, who shall only collect tolls on the carriages, waggons, barges, ships, that pass our barriers; shall take as duties, the value of a certain portion of the timber, tea, coffee, sugar, wine, spirits, tobacco, raisins, currants, oranges, lemons, butter, cheese,

eggs, gloves, silk, lace, books, and the thousand other articles, which you may require in exchange for the productions of the estate. To collect these duties, it is indispensably necessary to prevent smuggling, and to destroy smugglers; I must, therefore, stop and examine every load and every parcel that passes the barrier; every time that you return from a journey, my officers must explore your boxes and bags; search, perhaps, your pockets; subject, if necessary, the persons and dresses of your wives and daughters to the scrutiny of expert women. Some of you are engaged in manufacturing soap, paper, malt, and other articles; you must then permit another class of my officers to collect from these manufacturers certain taxes; to watch, measure, weigh the produce, and to prevent fraud, control the processes. Those who keep or kill certain animals, or follow certain trades, must pay for licences. Your contracts of sales must be made invalid, unless they are written on stamped papers, for which considerable sums must be paid; at the death of some of you, my officers must seize a part of your property. The result will be briefly this: my net revenue will amount to no more than it amounts to at the present time; I shall gain nothing by the change; you will, of course, pay more, as my expense in collecting the revenue will be augmented; and the traders and manufacturers will require a liberal per-centage on the taxes which they advance: your freedom, commerce, and ingenuity will suffer; but you will be at liberty to imagine that you have the service of my houses and lands for nothing; you will pay no Rent."

It is possible that at some not distant time—the people of this country, at the instance of enlightened statesmen, may prefer paying directly and avowedly a larger part of their taxes than they do now, as an annual rent for the service of the state—for the defence of the empire, the maintenance of the public faith, the administration of justice, the pay of the civil service, the advancement of useful national works, the support of the dignity of the crown.

In so doing they will only be reverting to the old consecrated ways; for in the early Saxon laws and institutions, amidst all their rudeness, certain simple principles of equity reign: in the hundred, the guild, the borough, the protection, the wergeld, and the privileges, were proportioned to the services required from, and the services rendered by each man. Each burgess paid scot and lot;\* his shot—or share of the public reckoning, his lot—or share of the public services. When the land was divided into hydes (274,950 according to Brady's estimate), each hyde was taxed equally and equitably; for a hyde of land was as much as one plough could manage, as much as would support one family. When, after the Conquest, under the feudal system, the kingdom was divided into 60,215 knight's fees, each fee furnished a knight for a fixed time, and defined service;† afterwards commuted into a payment in money called scutage. Returns of the fees in their possession, called Carta Baronum,‡ were made by the barons. The *subsidy* was an aid (in subsidium regis)

\* *Scot* is in the Anglo-Saxon *shot*, payment; *lot* tribute. *Gild*, *geld*, a payment of money, was also the name of the first Saxon society. A guild was a club for mutual support by mutual contributions.

† Brady, vol. i., pp. 210, 211, 270.

‡ Madox, Hist. Excheq., 2nd edition, cap. xv.



levied “on the lands or goods, at the rate of 4s. in the pound for lands, and 2s. 8d. for goods;”\* the rate being undoubtedly on the *rent* of lands, and on the gross profit of goods; for 48d. and 32d. are in the proportion of 3 to 2; and if land worth 12l. returned 1l. in rent, goods, it is inferred, worth 8l. returned also 1l.† The subsidy was then an equal rate on the *property*; of at least 4d. in the pound on the value. The *fifteenth*, so often granted, is mentioned in Magna Charta; the barons granted the king a *fifteenth* of their *movable goods*. It was originally assessed on the goods of individuals (*per capita*); but in the 8 Edw. III. commissioners it is said, rated every town at the 15th part of the value of the town at that time; and the quota of taxation was recorded in the Exchequer, and served as the basis of the future payments; the inhabitants being allowed to rate themselves proportionally, so as to obtain the sum charged on the township. The subsidy and the *fifteenth* were equitable in principle, and were equitably assessed in the first instance; and they only became unequal, like our present taxes, by the negligence of the Exchequer. In the 4 Gul. et Mariæ, cap. 1, (sess. 1692), Parliament granted to their Majesties an aid of 4s. in the pound [of rent and gross profit], payable by every person or body in England, Wales, Berwick on Tweed, having any estate (1) in ready money, (2) in debts owing to him, (3) in goods, wages, merchandize, or other chattels, or personal estate whatever, in the realm, belonging to or in trust for him: *except* (1) such sums as he *bonâ fide* owes, (2) desperate debts owing to him, (3) *stock upon land*, (4) such *goods* as are in use as *household stuff*. The assessment is on what is called, incorrectly, the *yearly value*; and while land is taxed at the rate of 1l. in the 5l. of rent, or in the 100l. of value; every 100l. of ready money, and debts, and every 100l. worth of goods, wares, merchandize, or other personal estate, is charged 24s., or at the rate of 4s. in the pound, on the assumed *profit of 6 per cent*. Every person having any public office of profit, except officers in the army and navy, was taxed at the rate of 4s. on his salary. This important tax was a *property tax* in the common sense of the word; and is the basis of the *land tax*, improperly so called.‡ The land was taxed at the rate of 20 per cent. on the *rent*; which was equivalent to 1l. per cent. on its *value as property*; for land was then worth 20 years’ purchase: (under the present income tax, the annual charge on land is at the rate of nearly  $\frac{1}{10}$ th per cent. on its value.) And stock in trade was charged at the rate of 20 per cent. on its gross *profit*;—1·20l.=1l. 4s. per cent. on its *value*; from which it is evident that the annual profit on 100l. of stock, was inferred to be 6l.; or the profit was reckoned to be worth  $16\frac{2}{3}$  years’ purchase. On the principle of the ancient subsidy, stock in trade should have been charged 2s. 8d. in the pound on *profit*; or in this case 16s. (=8l.) per cent. on its *value*. The tax as it was levied in the new form, included a rate on the produce of the stock-

\* General Index to first seven vols. of Journals of House of Commons.

† Sir Joshua Child, in his Discourse on Trade, shows that in 1621 land was only worth twelve years’ purchase in England; the rate of interest on investments was  $8\frac{1}{2}$  per cent.

‡ See section 4. Manors, messuages, lands, tenements, quarries, mines of coal, tin, lead, copper, iron, salt springs, parks, chaces, warrens, woods, fisheries, tolls, annuities, all hereditaments of what nature or kind soever, shares in the New River and other companies, are charged at the rate of 4s. in the 1l.

owner's *industry*; and was a tax on this class of the inherent property of the country. A tradesman who had 1,000*l.* engaged in trade was taxed 4*s.* in the pound, on an assumed profit of 60*l.*; and as the average profit in the sense it has in trade, including his own earnings, could not then have been less than 120*l.* or 180*l.*; the tax pressed unevenly, but it did not press unduly on the industry of the country.

No person whose lands were worth less than 1*l.* of "yearly value," (20*l.* of value) was liable to be charged. Lands and houses unoccupied were taxed.

This act embodies the most remarkable financial measure in the statute book: it was levied at rates varying from 1*s.* to 4*s.* in the *pound* on *rents* until 1798, when it was made a perpetual charge on the land under the old assessments; and the administrative machinery is employed in the present day. It had in it from the first, however, a leaven of injustice, which was fatal to its efficiency; it was badly administered, and it was, as we have seen, at last converted by Mr. Pitt, into a reserved, redeemable rent on real property. This great act unwisely embodied a penal clause in a measure of finance: "Papists and every person who has not taken the oaths of supremacy and allegiance, shall pay double," was one of its enactments. The trading classes were taxed on their stock, although this varies in different trades; and as the property inherent in lawyers, doctors, and the professional classes, does not exist in the form of stock, they were not charged under a tax which should have been levied on the value of the services of men, as well as of land. It had the defects of the American system. It did not extend to Ireland or Scotland. The tax on stock in trade and personal property was resisted and evaded, until it became insignificant in amount; and was abandoned in 1833. How could trades be taxed when the professions escaped?

In the ancient system of taxation, the customs duties were paid for protection on the seas; the subsidy was a rate on the *value* of property; equality was evidently aimed at in the original enactments; and, notwithstanding their corruptions, was in many cases achieved, as far as was possible in a state of disorder and insecurity, under a rude administrative machinery, and in the absence of the science which may shed some of its light on finance as well as on other arts in these latter days.

The principle of proportionality and equity, as is evident from these facts, is not a stranger to the English system of taxation; and it still lives in the minds of the people, like one of those eternal ideas that are recollected, and are not discovered, even by such men as Adam Smith. All that remains to do, is to show how the principle can be carried out and applied under a complicated system of property: how the Customs can be levied on the "old foundation of guarding the seas, that merchants might trade hither with safety;"\* how the Excise duties which, except those on deleterious stimulants, rest on no defensible basis, may be gradually commuted; how the department of Stamps, can, by being converted into a great system of records, for the registration of property, titles, contracts, and transfers, —without sacrifice to the revenue,—enhance the value of property by many millions, and render more important services than the Post

\* Cunningham, History of Taxes, p. 25.



Office; how the income and other taxes can be adjusted; and the whole revenue be made to tend—to what it may ultimately become—simply an *equitable rent on all the property* of the people in the United Kingdom.

If the value of the inherent and external property of the United Kingdom is set down at 10,000 million *l.*, (and it can scarcely be less); the net annual profit at 300 million *l.*; the annual produce at 600 million *l.*; then a rent tax of *one farthing* in the pound on the value of the property, will return 10,416,667*l.* of revenue; and if the property which can be reached directly by the revenue officers is reduced to 5,000 million *l.*, the rent will be reduced in the same proportion.

I have discussed the income and property tax as a pure question of statistical science: and have endeavoured to show—that in spite of the corruptions of modern practice—the principle of an equitable tax—by an equal rate—on the *property* of every subject of Her Majesty—is a fundamental principle of the old English law. I infer that this principle can never be safely disregarded in any country; and least of all in England, where the Minister of Finance was formerly, by a significant arrangement, a Minister of Justice; and as he is now, the pillar on which the Public Credit rests, also the designated Administrator, and great practical Teacher of Equity in the common business of life.

The feeling of the intelligent classes of the community on the subject of the income tax is not directed against the amount, or the principle, of an equitable property tax; it is excited by the inequality of the assessments. This feeling deserves to be respected. It is a remarkable fact, that people are more easily excited to action and resistance to inequitable taxation, than to impositions which violate the loftier sentiments of our nature. And this conduct is generally denounced by historians as baseness. Rötteck, a German of high rank among historians, recording the revolt of the Netherlands, says:—"Then Alva exacted the hundredth penny of the gross property (*gesammten vermögen*) of all the inhabitants of the United Provinces; then the twentieth and the tenth penny of every alienation (*veräußerung*) of immovable and movable goods; and what the executioner's axe had not excited, the tax-gatherer did—a rebellion. To the tenth penny—it is humiliating to say it—to the tenth penny Holland owes her freedom."\*

The part which a system of taxation, unparalleled in its injustice, played in exciting the French revolution is well known; and the writings of Boisguillebert and Vauban, as well as the returns of taxes, prove that it was not the amount but the injustice of the levy, that ruined and exasperated the country. In sensitiveness on the subject of injustice generally—and of evident injustice in taxation particularly—the people of England are not behind any other people in the world. In the imperfect reports of the proceedings of the House of Commons, the earliest instance of a division being contemplated is found in 1523, under Henry VIII., and it referred to the grant of a subsidy:—"There has been the greatest and sorest hold on the lower house for the payment of the subsidy that was ever in any Parliament. It has been debated sixteen days together; the resistance was so great that the house was like to be dissevered" [divided]. This debate is "instruc-

\* Allgemeine Geschichte, von Carl von Rötteck, 7 B. p. 291.

tive," says a late writer on constitutional history, "as indicating the national characteristic love of money so early developed. It is curious and humiliating to think that a Parliament, ever ready to ratify religious innovations, which must have seemed either impious schism or baneful superstition to every member of the Legislature, and who prostituted the powers of Parliament to attain the unhappy women or discarded tools which the tyrant wished to be rid of, should have bristled up with something of modern constitutional obstinacy at the vote of a subsidy."\*

The important part which tonnage, poundage, shipmoney—taxation in fact—played in the English revolution, is also well known; and the dissatisfaction in this period, and in the century preceding, was, Mr. Raikes must allow me to say, not so much created by the English love of money, as by the English love of justice. The national income in the reign of Charles I. was 900,000*l.*; after the intestine struggle was over, the people paid in taxes double the amount of the taxes which they had paid previously (1,800,000*l.*); after the next revolution the people paid taxes under King William III. amounting on an average to 3,895,205*l.*† Hampden felt oppressed, not by the 20*s.* at which his estate was rated, but by the injustice of its exaction; and he shed his blood in resistance. Every man pays with satisfaction his fair share, legally imposed, of a public tax, or a private contribution; and resists an unfair demand with indignation. This instinctive sentiment has an important signification. Upon looking closely into the question of equity in taxation, it will be found to be the basis of that Security of Property, on which the fabric of society rests. If all property is taxed at a uniform rate, the exchangeable values of different kinds of property remain unaltered; and the owners remain in the enjoyment of its undisturbed possession, as they know that whether the rate of taxation is lowered or raised, to supply the exigencies of the country, it will affect all property in the same degree. The reverse happens when the taxation is not equitable.

The effects of an equal and of an arbitrary system of taxation may be thus illustrated:—Let a nation consist of 1,000 landowners, each in the possession of rents of 10,000*l.* a year, worth 300 million *l.* The rents will be 10 million *l.* Let a tax of 1 million *l.*—or of  $\frac{1}{300}$  on the value of the property—be levied first equitably; then each landowner will expend 1,000*l.* a year on certain public objects in which he and the other landowners are interested. Now, let an arbitrary despot intervene, who raises the same amount of revenue, 1 million *l.*, by seizing every year the forfeited estates of 100 proprietors. You see at once what an engine of oppression this system of taxation becomes; the same amount of revenue is raised, but the free soul of every subject is tortured, subjugated, or destroyed; if the value of the rent is, in the equitable state, thirty, it is, in the arbitrary state, not worth ten, not five years' purchase. If the tax is levied at different rates, by classes and parties on other classes and on other parties, the same insecurity is created. If the proprietors of land and property in the best class of securities pay 7*d.* in the pound on

\* Raikes, Constitutional History, pp. 228—9.

† Sinclair's History of the Public Revenue. Reigns, Charles I., Charles II., William III.



their revenue, the industrial and professional classes pay at least 14*d.* in the pound under an income tax on their net profits, or their incomes after excluding the returning capital. Consequently some members of that important class of persons who derive their revenue from personal or real property will pay on a higher quota, and the class in whose life the property which returns income is invested, will pay on a lower quota in a system of equitable taxation, than they pay under an income tax. Still, security is of so much importance to the former class, that they are more interested than any other body of men in the establishment of a sound system; for if the right to levy the same amount of tax on properties which the science and the common sense of the country have discovered to differ in value, is deliberately sanctioned, no visible property will be safe. If one class in power is favoured one year, another class will struggle for the same, or for greater favour the next; and in the struggles and convulsions that always follow the reign of injustice, none are, judging from experience, so sure to suffer as those in the possession of realized property. A just distribution of the taxation of the country over all classes, and over all the property of the country—bearing, like the pressure of the atmosphere, equally on all sides—if firmly established, will present an irresistible barrier to anarchical inroads on the rents of land—or the interest of money; and while the industry of the country is left free, Property, on the firm ground of the public faith, will rest on an everlasting foundation.

## II.

### *On the Equitable Taxation of Property and Profit in Annuities, Rents, Life Interests, and Industrial Incomes.*

In the present part I propose to investigate very briefly the most important questions in this branch of finance, on the principles, and by the methods, which have been already applied to the doctrines of interest, life annuities, and life insurance; of which the fundamental problems are here taken for granted. The reader is referred for the investigation of those problems to the works of Price, Bailey, Milne, and other writers on the doctrines of interest and life insurance. The principles which are the basis of this inquiry may be thus stated.—

*Axiom.*—A tax on the subjects of a state is equitable when it is proportional to the value of the property severally in their possession, and to the time of possession:

That is, (1) when each subject of the state is taxed equally on the same amount of property during the same time:

(2) When, in the same time, the tax is in proportion to the property; Thus, if the annual tax on £1000 of property is £1, the tax on £2000 is £2, the tax on £3000 is £3:

(3) When on the same amount of property the tax on the proprietor is in proportion to the time of possession: Thus, if on £1000 the tax is £1 in *one* year, it is £2 in *two* years, £3 in *three* years:

(4) Or generally when the tax varies in the compound proportion of the time and the value of the property. Thus, if the annual rate of tax in the £1 is represented by *a*, the time over which the tax extends by *n*, the property by *P*, the tax varies as either of these elements varies; or

tax  $\propto a n P$ . Thus, if  $a = \frac{2}{1000} = .002$ ;  $n = 3$ ;  $P = 2000$ ; the tax  $= .002 \times 3 \times 2000 = 12$ . If  $n = 2$ ;  $P = 4000$ ; the tax  $= .002 \times 2 \times 4000 = 16$ .

By the doctrines of simple interest, the amount of interest is also proportional to the time and the principal. Thus, if the interest of £1 in one year is  $i$ , then the interest on £P in  $n$  years is  $= i n P$ . Now the annual interest is to the principal, or property, as  $i P : P$ ; consequently  $i : 1 :: a : \frac{a}{i}$  = the annual rate of tax, per £1, on interest or profit, equivalent to a tax of £ $a$  per £1 on capital.

Before proceeding to the investigation of the values of annuities, and to the determination of the tax chargeable on property in annuities and industrial incomes, it is necessary to explain the symbols to be employed. The results are sufficiently simple; but in the inquiry problems of considerable intricacy have to be solved, which it is impossible to accost except by mathematical analysis.

#### SYMBOLS.

$i$  = the interest of £1 in one year, when interest is convertible annually: consequently £1 at interest one year amounts, with its increase, to  $1 + i$  at the end of the year; and  $i P$  is the interest of any capital  $P$  in a year (for  $1 : i :: P : i P$ .)

$v = \frac{1}{1 + i}$  = the *present value* of 1*l.* payable at the end of a year.

$$v^{-1} = 1 + i \therefore v + vi = 1 \therefore i = \frac{1}{v} - 1$$

$V_n = v + v^2 + v^3 \dots + v^{n-1} + v^n = \frac{1 - v^n}{i} = \frac{1}{i} - \frac{v^n}{i}$  = the present value of £1 a year for  $n$  years.

For  $v^n$  is the value of £1 to be received at the end of  $n$  years; and  $\frac{1 - v^n}{i}$  = the sum of the geometrical progression  $v^1 + v^2 \dots + v^n$ .

If  $n$  is infinite ( $=\infty$ ), then  $V_\infty = \frac{1}{i}$  = the value of a perpetuity; and  $\frac{1}{i} - \left( \frac{1}{i} - \frac{v^n}{i} \right) = \frac{v^n}{i}$  = the value of the reversion of an annuity of £1 to be entered on at the end of  $n$  years. The  $(n + 1)^{th}$  is the first payment to the reversioner.

NOTE.—Tables of  $v^n$  and  $V_n$  have been calculated and published for all the values of  $n$  from 1 to 100, at the common rates of interest.

$I$  = annuity, annual rent, or income. In the case of a perpetuity  $I$  is simply the yearly *interest* of the capital.

$a$  = the tax per annum on £1 of property, or the *uniform rate of taxation*.  $\therefore$  if the tax is payable in equal instalments  $t$  times in the year,  $\frac{a}{t}$  is the rate of tax on the property during the  $t^{th}$  part of a year.

$I V_n = I \cdot \frac{1 - v^n}{i} = I (v + v^2 + v^3 \dots + v^n)$  = the present value of the annuity  $I$  for  $n$  years.



$P = IV_{\infty} = \frac{I}{i}$  = the value of a property returning the annuity or rent  $I$  in perpetuity; where  $P$  and  $I$  are so related that  $\frac{P}{I} = V_{\infty}$ .

Here  $I = iP =$  the annual interest of  $P = \frac{P}{V_{\infty}}$

$aP = aIV_{\infty} = \frac{a}{i}I$  = the annual tax on the property,  $\therefore$  a tax at the rate of  $\frac{a}{i}$  in the £1 on the interest is equal to a tax at the rate of  $a$  in the £1 on the property.

NOTE.—It is here assumed that the tax is assessed at the beginning of the year, and is payable with the annuity at the end of the year.

Let the tax be perpetual at the uniform annual rate of  $a$  in the £1 on property; then immediately before the payment of the year's tax:

$aP \cdot \frac{1+i}{i} = aIV_{\infty} \cdot \frac{1+i}{i} = \frac{aI}{i} \cdot \frac{1+i}{i} = aI \cdot \frac{1+i}{i^2} = aI \left( \frac{1}{i^2} + \frac{1}{i} \right)$   
 $= aIV_{\infty} (1 + V_{\infty})$  = the present value of the tax payable at the same rate in perpetuity.

Immediately after the payment of the year's tax:

$aIV_{\infty} \cdot V_{\infty} = \frac{aI}{i^2}$  = the present value of the tax payable in perpetuity.

$C$  = the value of the composition on any tax; or the present value of the future tax, whether levied in perpetuity or for a term of years, on certain or contingent incomes.

#### SECTION I.—Perpetual Annuity Certain, or Property in Fee Simple.

Case 1.—The tax is perpetual, and at the rate  $a$  in the £1 on property, or  $\frac{a}{i}$  in the £1 on rent.

The present value of an annuity of £ $b$  in perpetuity is  $bV_{\infty} = \frac{b}{i}$ ; and the tax  $aP = aIV_{\infty} = aI \frac{1}{i}$ , is of the nature of an annuity: consequently, by substituting these values for  $b$  in the above equation,

Eq. (1.)  $C = aPV_{\infty} = \frac{aI}{i} V_{\infty} = \frac{aI}{i^2}$  = the value at the beginning of a year of the perpetual tax payable at the end of every year.

Immediately before the first payment, or if one payment of the tax is now due, its value must be added to the previous sum; then

Eq. (2.)  $C = aP(1 + V_{\infty}) = aI \cdot \frac{1+i}{i^2} = aI \left( \frac{1}{i^2} + \frac{1}{i} \right) = a \frac{I}{i} (1 + V_{\infty})$ .

Example.—What is the value of a tax of £1 in the £1000 on property returning £1000 a-year; or of £3. 6s. 8d. per cent. on the rent, if the interest of money is 3 per cent. per annum?

Here  $i = .03$ ;  $a = £.001$ ;  $I = 1000$ .

$C = .001 \times £1000 \times \frac{1}{.0009} = £1111.111 =$  the value of the tax in perpetuity  $= 1\frac{1}{9}$  year's purchase of the annual rent.

$C = \frac{1.03}{.0009} = 1144.444 = 1111.111 + 33.333 =$  the value of the tax immediately before a payment is due. The property is £33333; and the annual tax assessed at the beginning of each year is £33.333.

Case 2.—The annuity is perpetual; the tax on it is for  $n$  years.

Eq. (3.)  $C = a P V_n = a I V_\infty \cdot V_n = \frac{a I V_n}{i} = a \frac{I}{i} \cdot \frac{1 - v^n}{i} = a I \left( \frac{1}{i^2} - \frac{v^n}{i^2} \right) =$  the value at the beginning of the year of the tax on the property assessed at the beginning, payable at the end of each year for  $n$  years.

The uniform annual tax  $\left( a I \frac{1}{i} \right)$  is strictly a perpetual annuity. Now the value of an annuity of £1 for  $n$  years is  $\frac{1 - v^n}{i}$ .

And  $1 : \frac{1 - v^n}{i} :: a I \cdot \frac{1}{i} : a I \cdot \frac{1 - v^n}{i^2} = a I \frac{V_n}{i} =$  the present value of the tax on the property, payable for  $n$  years.

NOTE.—If the tax is immediately due, and payable  $n$  times: the interval between the first and the last payment is  $(n - 1)$  years.

Eq. (4.)  $C = a P (1 + V_{n-1}) = a I \frac{1}{i} \cdot \frac{1 - v^n}{1 - v} = \frac{a I (1 + V_{n-1})}{i} = a I \cdot \frac{(1 + i) - v^{n-1}}{i^2} =$  the present value of the tax assessed at the beginning of the year, payable at the end, immediately before the first payment is due.

*Example*—What is the present value of an annual tax, at the rate of £1 in the £1000, for 10 years, on the value of a perpetual annuity of £1000? If the annual rate of interest is 3 per cent.  $1 + i = 1.03$ ,  $v^9 = .766417$ .

$$C = .001 \times 1000 \times \frac{1.03 - .766417}{.0009} = \frac{.263583}{.0009} = \frac{8.7861}{.03} = 292.870.$$

Case 3.—The tax and the annuity are perpetual; what is the value of the tax on the annuity chargeable after  $n$  years have elapsed?

NOTE.—It will be assumed, henceforward, that the tax is assessed at the beginning of every year, payable at the end of every year, and that the value  $C$  of the tax is taken immediately before the first payment of the tax is due.

It has been shown (Case 2,) that the value of the tax for  $n$  years on a property  $\frac{I}{i}$  is  $\frac{aI}{i} (1 + V_{n-1})$ , and that the value of the tax in



perpetuity is  $\frac{aI}{i} (1 + V_{\infty})$  (Case 1); consequently the value of the tax chargeable after  $n$  years is,

$$\text{Eq. (5.) } C = \frac{aI}{i} (V_{\infty} - V_{n-1}) = \frac{aI}{i} \cdot \left( \frac{1}{i} - \frac{1-v^{n-1}}{i} \right) = \frac{aI}{i^2} \cdot v^{n-1}.$$

*Example.*—The tax is at the annual rate of £1 in the £1000;  $I = £1000$ ;  $i = .03$ ;  $a = .001$ .

Then the value of the tax chargeable after the first 10 payments is,

$$C = \frac{a v^9 I}{.0009} = \frac{.766417}{.0009} = 851.574$$

$851.574 + 292\ 870 = 1144.444$ , the value of the tax on the perpetuity.

The value of the tax for  $n$  years *plus* the value of the tax ever afterwards, is necessarily equal to the value of the perpetual tax on the perpetuity.

If the annuity pass into the hands of A, B, C, in succession, the value of the tax chargeable on each can always be found.

The tax chargeable on each of the parties will vary every year, as is shown in the following equations, where the quantities between the vertical bars express the value of the annuity which belongs respectively to A, B, and C; A having at first the right to the three first, B to the three next payments, and C to the remainder.

$$\begin{array}{ccc} & \text{A} & \text{B} & \text{C} \\ \text{1st year. Eq. (6.) } C = \frac{aI}{i} & (v^1 + v^2 + v^3 || + v^4 + v^5 + v^6 || + v^7 + v^8 + v^9 \dots v^{\infty} \end{array}$$

$$\begin{array}{ccc} & \text{A} & \text{B} & \text{C} \\ \text{2nd year. } C = \frac{a}{i} I & (v^1 + v^2 || + v^3 + v^4 + v^5 || + v^6 + v^7 + v^8 + v^9 \dots v^{\infty} \end{array}$$

In the second year, A, having received one, is only entitled to two more rents; A's share of the property consequently decreases every year, while the share of the reversioner B increases every year until he receives his first rent, when his share, in like manner, decreases; C's share increases until he comes into possession of the perpetuity.

## SECTION II.—Tax on terminable annuities certain—rents for terms of years certain—and reversions.

Of this class two cases may be considered; *first*, that in which the tax is assumed to be perpetual, or to be payable for as many terms as the annuity; *secondly*, that in which the tax is for a shorter term than the annuity.

*Case 1.*—A has a terminable annuity ( $I$ ) which is payable at the end of every year, for  $n$  years; a tax of a per £1 per annum is assessed on the value of that annuity at the beginning of each year; the tax is payable at the same time as the annuity. Immediately before the first payment of the tax, what ought A to pay in composition for the whole of his future tax; or, in other words, what is the present value of the tax chargeable on the successive values of the annuity during the  $n$  years it has to run?

The value of the annuity on which the tax is assessed is at the beginning of the *first* year  $= I (v^1 + v^2 + v^3 \dots + v^{n-1} + v^n)$ . The

assessment of the first year's tax is  $= a I (v^1 + v^2 + v^3 \dots + v^{n-1} + v^n)$ ; which is also its *value at the end of the first year when it is due*.

The assessment of the second year's tax is  $a I (v^1 + v^2 + v^3 \dots + v^{n-1})$ . It is payable at the end of two years from the date of the first assessment; but only of one year from the date of the valuation. Hence the value of the second year's tax is  $v a I (v^1 + v^2 + v^3 \dots + v^{n-1})$ .

In the same way the value is found, of the third year's tax, to be  $v^2 a I (v^1 + v^2 + v^3 \dots + v^{n-2})$ .

By continuing the process, multiplying out and collecting the terms, we find as the result:—

$$\text{Eq. (7.) } C = a I \{1 v^1 + 2 v^2 + 3 v^3 \dots + (n-1) v^{n-1} + n v^n\}.$$

Thus, let  $n = 5$ ; then the successive values of the tax payable at the end of each of five years, will be:—

No. of Payment.	Value of each Payment.	Value of all the Payments.
1	$1 a I (v^1 + v^2 + v^3 + v^4 + v^5) = a I$	$v^1 + v^2 + v^3 + v^4 + v^5$
2	$v a I (v^1 + v^2 + v^3 + v^4)$	$v^2 + v^3 + v^4 + v^5$
3	$v^2 a I (v^1 + v^2 + v^3)$	$v^3 + v^4 + v^5$
4	$v^3 a I (v^1 + v^2)$	$v^4 + v^5$
5	$v^4 a I v^1$	$+ v^5$

Or the value of the five future payments at the end of the first year is

$$C = a I (1 v^1 + 2 v^2 + 3 v^3 + 4 v^4 + 5 v^5).$$

By the formation of a series of the values

Eq. (8.)  $G_n = (1 v^1 + 2 v^2 + 3 v^3 \dots + n v^n)$ , in which  $n$  is made to vary from 1 to 100, all these valuations are facilitated. (See table III.)

If the annuity on which the tax is assessed is payable at the beginning of every year, and the tax is made then due, the value of the  $n$  payments is

$$\text{Eq. (9.) } C_1 = a I (1 + 2 v^1 + 3 v^2 \dots + n v^{n-1}).$$

TABLE III.

$n$ .	Series. $v^1 + 2 v^2 \dots + n v^n$ . Here $v = \frac{1}{1.03}$ .	Sum of the Series $n v^n$ , as far as 10 terms: and the sum of the Infinite Series.
	$n v^n$ .	$G_n$ .
1	·9709	·9709
2	1·8852	2·8561
3	2·7454	5·6015
4	3·5539	9·1554
5	4·3130	13·4684
6	5·0249	18·4933
7	5·6916	24·1849
8	6·3153	30·5002
9	6·8978	37·3980
10	7·4409	44·8389
$\infty$	$\infty v^\infty$	1144·4444



Case 1\*.—*Tax on the reversion of an annuity certain for a limited term.*

If the annuity and the tax are perpetual, but A enjoys the annuity for  $n$  years only, when the annuity passes into the hands of B, it has been shown, under section II, case 1, that A's share in the value of the annuity decreases every year, and that the present value of A's share of the tax is  $C = a I (v + 2v^2 + 3v^3 \dots n v^n) = a I G_n$ .

Then it may be demonstrated by the same reasoning that the present value of B's share of the tax is,

$$\text{Eq. (10.) } C = a I \{ (n+1)v^{n+1} + (n+2)v^{n+2} \dots + \infty v^\infty \}.$$

It has been shown (Section I, Case 1) that the value of the perpetual tax on a perpetual annuity, is  $\frac{a I}{i} (1 + V_\infty) = a I \cdot \frac{1+i}{i^2}$ .

Consequently by subtracting the value of A's share of the tax from this quantity, the value of B's share of the tax, or the sum of the series Eq. (10) is immediately found; or

Eq. (11.)  $C = a I \left( \frac{1+i}{i^2} - G_n \right) = a I \left\{ \frac{(1+V_\infty)}{i} - G_n \right\} =$  the present value of the reversioner B's share of the tax.

*Example.*—What is the value of the reversioner B's share of an annual tax, at the rate of £1 in the £1000, on the value of a perpetual annuity of £1000, the rate of interest being 3 per cent.; A having a right to the 10 next annual payments of the annuity?

The present value of

A's share of the tax is  $C = .001 \times 1000 \times G_{10} = 44.839$ .

The present value of

B's share of the tax is  $C = .001 \times 1000 (1144.444 - 44.839) = 1099.605$ .

Then also the present value of the tax justly chargeable on B, during the  $n$  years that the annuity is received by A, is

$$\text{Eq. (12.) } C = a I \cdot \left( \frac{1+V_{n-1}}{i} - G_n \right) = \frac{8.97087}{.03} - 44.839 = 254.190.$$

For the value of the tax chargeable on the perpetual annuity for  $n$  years is, by Section I, Case 2,  $a I \frac{(1+V_{n-1})}{i}$ ; and as the value of A's share is  $a I G_n$ , the difference is chargeable on B.

Case 2.—*The tax is for a shorter term than that which the terminable annuity has to run.*

It has been assumed, under Section II, Case 1, that the tax is to be levied for as many years as the annuity is payable; now let the tax be levied annually for five years only, while the annuity has 7 years to run. In this case the annuitant wishes to compound for his tax; what is its present value?

The value of the annuity on which the tax is levied is at first  $I(v^1 + v^2 + v^3 + v^4 + v^5 + v^6 + v^7)$ ; it diminishes every year; and the present value of the tax,

Payable at the  
end of the

1st year is $1 a I (v^1 + v^2 + v^3 + v^4 + v^5 + v^6 + v^7) = a I$	$v^1 + v^2 + v^3 + v^4 + v^5 + v^6 + v^7$
2nd year is $v a I (v^1 + v^2 + v^3 + v^4 + v^5 + v^6)$	$+ v^2 + v^3 + v^4 + v^5 + v^6 + v^7$
3rd year is $v^2 a I (v^1 + v^2 + v^3 + v^4 + v^5)$	$+ v^3 + v^4 + v^5 + v^6 + v^7$
4th year is $v^3 a I (v^1 + v^2 + v^3 + v^4)$	$+ v^4 + v^5 + v^6 + v^7$
5th year is $v^4 a I (v^1 + v^2 + v^3)$	$+ v^5 + v^6 + v^7$
6th year is $v^5 \times 0 \times I (v^1 + v^2)$	
7th year is $v^6 \times 0 \times I \times v^1$	

By collecting the terms it is found that

$$C = a I (1 v^1 + 2 v^2 + 3 v^3 + 4 v^4 + 5 (v^5 + v^6 + v^7)).$$

Instead of 7, let  $n$  be the number of years during which the annuity has to run, and  $z < n$  the number of years over which the tax extends, then

$$\begin{aligned} \text{Eq. (13.) } C &= a I (1 v^1 + 2 v^2 \dots + (z-1) v^{z-1} + z(v^z + v^{z+1} \dots + v^n)) \\ &= a I (1 v^1 + 2 v^2 \dots + (z-1) v^{z-1} + z(V_n - V_{z-1})) \end{aligned}$$

When  $z = n$

$$C = a I (v^1 + 2 v^2 \dots (n-1) v^{n-1} + n v^n) \text{ as above.}$$

*Example.*—The tax is at the same rate, and the annuity is £1000 for seven years; the tax is to be levied for five years; what is the present value of the tax?

$$C = G_4 + 5 (V_7 - V_4) = 9.155 + 5 \times 2.513 = 21.720.$$

SECTION III.—*Modifications of the formulas, where the tax on rents and annuities is paid half-yearly, quarterly, or in any period shorter than a year.*

If the annuity is paid half-yearly, the half-yearly dividend is  $\frac{I}{2}$ ;

and if interest is convertible half yearly,  $v = \frac{1}{1 + \frac{i}{2}} = \frac{2}{2 + i}$ .

If the annuity is payable quarterly, the quarterly dividend is  $\frac{I}{4}$

and if interest is convertible quarterly  $v = \frac{1}{1 + \frac{i}{4}} = \frac{4}{4 + i}$ ,

If the annuity is payable, and interest is convertible  $t$  times in the year, the dividend is  $\frac{I}{t}$ ; and  $v = \frac{1}{1 + \frac{i}{t}} = \frac{t}{t + i}$ .

If the tax is assessed on property at the rate of  $a$  in the £1 per annum, it will be  $\frac{a}{2}$ ,  $\frac{a}{4}$ ,  $\frac{a}{t}$  in the £1 half-yearly, quarterly,  $t^{\text{ly}}$ ; the tax on the property  $P$  to be levied at each collection will be  $\frac{a}{t} \cdot P$ .

The value of an annuity in which  $v = \frac{1}{1 + \frac{i}{t}}$ ; and  $n$  the number of times,  $\frac{n}{t}$  the number of years that the annuity is to be paid, is

$$\frac{I}{t} (v^1 + v^2 + v^3 \dots + v^n).$$

The tax on such an annuity is  $\frac{a}{t} \cdot \frac{I}{t} (v^1 + v^2 + v^3 \dots + v^n)$ .



By making  $v = \frac{t}{t+i}$ , and substituting  $\frac{aI}{t^2}$  for  $aI$  in the previous formulas, the various values of  $C$  are obtained, when the tax is assessed and collected  $t$  times in the year.

SECTION III.\*—*On the Conversion of the Present Value of a variable Tax into a uniform Annual Tax.*

The present value ( $C$ ) of a tax, in all cases, is converted into a uniform annual tax by the formula :

Eq. (14.)  $c_n = \frac{C}{1+V_{n-1}} = C \cdot \frac{1-v}{1-v^n} =$  uniform annual tax payable  $n$  times—of the same present value as  $C$ .

For the value of £1 a year, payable at the beginning of each year, for  $n$  years is  $1 + V_{n-1} = 1 + v + v^2 \dots + v^{n-1}$ ; and  $1 + V_{n-1} : 1$   
 $\therefore C : \frac{C}{1+V_{n-1}} = c_n$ .

The conversion of  $C$  into an uniform tax payable  $t$  times a year, is effected by making  $v = \frac{1}{1+\frac{i}{t}}$ ; and  $n$ , the number of times that the tax is to be paid in the same Equation (14).

Eq. (15.)  $c_n = aI \frac{G_n}{1+V_{n-1}} = aI \cdot \frac{v + 2v^2 + 3v^3 \dots + nv^n}{1+v^1+v^2 \dots + v^{n-1}}$   
 $=$  the uniform annual tax on a terminable annuity certain having  $n$  years to run.

Eq. (16.)  $c_n = aI \left( \frac{1 + V_{n-1}}{i(1+V_{n-1})} - \frac{G_n}{1+V_{n-1}} \right)$   
 $= aI \left( \frac{1}{i} - \frac{G_n}{1+V_{n-1}} \right) =$  the uniform annual tax chargeable during  $n$  years on the reversioner.—See Sect. I, Eq. 4.

And so in all other cases, the value of the variable tax on the varying values of terminable annuities, and the equivalent uniform tax, can be determined.

The interest of a principal sum, or a property convertible into money, is of the same amount as the perpetual annuity into which the property can be converted; thus  $iP = iIV_n$  is the interest, and also the perpetual annuity, into which the value of a property can be converted,—as  $iIV_n$  is the perpetual annuity into which the terminable annuity can be converted. Now, a tax for one year of  $a$  in the £1 on the property ( $IV_n$ ), is  $aIV_n$ ; and a tax for one year of  $\frac{a}{i}$  in the £1 on the

annuity  $iIV_n$  is also  $\frac{a}{i} \cdot iIV_n = aIV_n \therefore$  the same amount of tax is levied in all cases of annuities, either under a tax of  $a$  in the £1 on property, or on the values of annuities; and a tax at the rate of  $\frac{a}{i}$  in the £1 on the interest, or the perpetual annuity into which it can be converted. If the property is actually converted into a perpetual annuity, and  $iIV_n$  is paid out of it annually, instead of  $I$ , the annual tax remains invariably  $aIV_n$ ; if, on the other hand, the conversion is not effected, but  $I$  is paid annually, inasmuch as  $V_n$  diminishes every year

as  $n$  decreases, the perpetual annuity into which it can be converted, and consequently the tax of  $\frac{a}{i}$  in the £1 on that variable perpetual annuity, or on the interest of the residual capital, decreases. One of the common fallacies current on the subject has arisen from inattention to this fact, that the perpetual annuity into which a terminable annuity can be converted becomes less and less every year.

$\frac{V_n}{V_\infty} \cdot I_n = I = (1 - v^n) I_n =$  the perpetual annuity into which an annuity  $I_n$  for  $n$  years can be converted. For

$$V_\infty : V_n :: I_n : \frac{V_n}{V_\infty} \cdot I_n = \frac{1 - v^n}{i} \cdot \frac{i}{1} I_n = (1 - v^n) I_n$$

Conversely  $\frac{V_\infty}{V_n} \cdot I = \frac{I}{1 - v^n} = I_n$  the short annuity into which the perpetual annuity  $I$  can be converted.

If a perpetual annuity  $I$  belongs to two persons, the one  $A$  entitled to  $n$  annuities, and the other  $B$  entitled to the remainder, then it may be at once divided into two perpetual annuities, severally and simultaneously payable to  $A$  and to  $B$ .

The share of the perpetual annuity falling to  $B$  will be  $= v^n I$ .

The share of the perpetual annuity falling to  $A$  will be  $(1 - v^n) I$ .

The value of a perpetuity is to the value of the reversion, after  $n$  years, as 1 to  $v^n$ .

$$v + v^2 \dots + v^n + v^{n+1} \dots + v^\infty : v^{n+1} \dots + v^\infty :: 1 : v^n;$$

$$\text{Or, } V_\infty : V_\infty - V_n :: 1 : 1 - \frac{V_n}{V_\infty} = v^n.$$

And the value of a perpetuity is to the value of an annuity for  $n$  years, as 1 to  $1 - v^n$ ;

$$\text{Or, } V_\infty : V_n :: 1 : 1 - v^n;$$

$$\text{Or, } v^1 + v^2 + v^3 \dots + v^n + v^{n+1} \dots + v^\infty : v^1 + v^2 \dots v^n :: 1 : 1 - v^n.$$

If the tax on the perpetuity is known, the respective shares of the tax payable by  $A$  and by  $B$  each year is deduced by making  $n$  vary in the following equations, where  $\frac{a}{i}$  is the rate of tax in the £1 on the

interest, and  $\frac{a}{i} I$  is the annual tax on the perpetuity.

	B's share of the constant tax is, $n, n-1$ , &c., years before he receives his first rent.		A's share of the tax is.
$n$ years	$v^n \frac{a}{i} \cdot I$	+	$(1 - v^n) \frac{a}{i} \cdot I = \frac{a}{i} I.$
$n - 1$	$v^{n-1} \frac{a}{i} I$	+	$(1 - v^{n-1}) \frac{a}{i} \cdot I = \frac{a}{i} I.$
	*	*	*      *
2 years	$v^2 \cdot \frac{a}{i} \cdot I$	+	$(1 - v^2) \frac{a}{i} \cdot I = \frac{a}{i} I.$
1 year	$v^1 \cdot \frac{a}{i} I$	+	$(1 - v) \frac{a}{i} \cdot I = \frac{a}{i} I.$



The sum of the taxes chargeable each year on A and B is equal to  $\frac{a}{i} \cdot I$ , the tax on the perpetuity.

The tax on the perpetuity is  $\frac{a}{i} \cdot I$ , and B, the reversioner's share of the first of  $n$  annual taxes payable before he receives his first rent is  $v^n \frac{a}{i}$ ; which in  $n$  years at interest will amount to  $\frac{a}{i} \cdot I$ . The share of the tax, therefore, chargeable on him, and left to accumulate at interest, amounts to the same sum as the whole of the annual tax on the perpetuity.

#### SECTION IV.—*Taxes on Reversions,—and on the Temporary Possessors of Annuities.*

It has already been seen that if a property P is held by two parties, the one A in possession of the rents for  $n$  years, the other B entitled to the reversion, the number and, therefore, the present value of A's rents every year, decrease, and the value of the reversion increases as the period of B's enjoyment of the rents approaches. (Sect. I.) If a tax of  $a$  in the £1 be levied on the property annually, then the portion of the tax chargeable on A will decrease in the same ratio as the value of his share of the property, while B's share of the tax will every year increase.

And if A pay, as at present, the whole of the tax chargeable on the perpetuity during his term of possession for  $n$  years, B is bound in equity, when he receives the first rent, to repay the whole of the tax to A. For the *interest* of the money which A has advanced for B as tax, amounts, in  $n$  years, to the same sum as the whole of the tax chargeable in the  $n$  years on A.

The variable proportion of the uniform annual tax chargeable respectively on A and on B is found by making  $n$  vary in the equation

$$C = a I \left( \overset{A}{v^1 + v^2 \dots + v^n} \parallel \overset{B}{+ v^{n+1} + v^{n+2} \dots + v^\infty} \right).$$

Now immediately before A pays the first annual tax, or  $n$  years before B will receive his first rent, B's share of the tax is  $a I (v^{n+1} + v^{n+2} \dots + v^\infty)$ ; which at interest for  $n$  years becomes  $a I v^{-n} (v^{n+1} + v^{n+2} + v^{n+3} \dots + v^\infty) = a I (v + v^2 + v^3 \dots + v^\infty)$ .

While this is the amount at interest of B's share of the tax which A has paid, it is precisely the whole tax annually chargeable on the property. And as the whole of the tax chargeable on the perpetuity is paid annually by A,  $n$  times, A's claim on B at the end of  $n + 1$  years from the date of assessment, or  $n$  years from the date of the first payment, is  $n a I (v^1 + v^2 + v^3 \dots + v^\infty)$ ; which is equal to the whole amount of the tax paid during  $n$  years.

As  $a I (v^{n+1} + v^{n+2} + \dots + v^\infty)$  amounts to  $a I (v^1 + v^2 + \dots + v^n + n^{n+1} \dots + v^\infty)$  in  $n$  years, the interest is equal to the difference between these two values; and the difference is  $= a I (v^1 + v^2 \dots + v^n) = a I V_n = A$ 's share of the first annual payment of the tax. Here  $n$  may have any value. Consequently the *interest* of the share of the tax advanced for B by A in any year is, in the interval of time between that payment and the first payment of

B, equal to the share of the tax equitably chargeable on A during that year. A pays his tax when it falls due; B returns his own share of the tax and the interest, which happens to be equal in amount to A's share of the tax. B does not return or in any way pay A's tax.

Consequently if the tax-collector takes annually from A, who has an annuity payable at the end of each year for  $n$  years, the same tax as is justly chargeable on a perpetual annuity, namely,  $aI(v^1 + v^2 \dots + v^\infty)$ , then the State at the end of  $n$  years should return the whole amount of the tax collected from A, namely,  $naIV_\infty$ , if it desire to place him on an equality with the possessors of property and annuities in perpetuity. The interest of the property of which he has been deprived, and of which the State has had the use during  $n$  years, is equivalent to his share of the tax.

*Example.*—A is in possession of an annuity of £300 a year, payable at the end of every year for 5 years; and B has the reversion. The property is taxed at the annual rate of £1 per £1000, payable at the same time as the annuity; so  $a = \cdot 001$ ; and  $I = 300$ . Let the interest of money be 3 per cent. per annum ( $i = \cdot 03$ ); then the value of the perpetuity is  $300 \times 33\cdot333 = \frac{300}{\cdot 03} = £10000$ ; and the tax is  $10,000 \times \cdot 001 = £10\cdot000$  annually. The tax on the perpetuity  $\left(\frac{aI}{i}\right) = \frac{\cdot 001}{\cdot 03} \cdot 300 = 10$  multiplied successively by  $v^5, v^4, v^3, v^2$ , and  $v^1$ , is B's share of the tax 5, 4, 3, 2 and 1 years before he receives the first annuity; while 10 *minus* these respective quantities is the share of the tax chargeable every year on A.

Interval between the first payment of the Tax and B's first receipt of Rent.		B's share of the Tax.				A's share of the Tax.			
	$n$	£	£	s.	d.	£	£	s.	d.
First payment	5 years ....	8·626	=	8	12 6	1·374	=	1	7 6
Second	„ 4 „ ....	8·885	=	8	17 8	1·115	=	1	2 4
Third	„ 3 „ ....	9·151	=	9	3 0	·849	=	0	17 0
Fourth	„ 2 „ ....	9·426	=	9	8 6	·574	=	0	11 6
Fifth	„ 1 „ ....	9·709	=	9	14 2	·291	=	0	5 10
Sixth	„ 0 „ ....	10·000	=	10	0 0				

Here it will be found that B's share of the first payment is £8·626; which at interest amounts in *one* year to  $8\cdot626 \times 1\cdot03 = 8\cdot885$ ; in 2 years to £9·151; in 3 years to £9·426; in 4 years to £9·709; in 5 years to £10. B's share of the *second* payment is £8·885, which in 4 years amounts also to £10; B's share of the *third* payment is £9·151, which in 3 years amounts to £10; B's share of the fourth payment is £9·426, which in 2 years amounts to £10; B's share of the fifth payment is £9·709, which in *one* year amounts to £10. The interest of B's share of the tax is in each case equal, by the time that he receives his first rent, to A's share of the tax at the time that A's tax is paid. If A pays the whole of the tax, he has therefore a claim on B at the *end* of the term for  $5 \times 10 = £50$ ; namely for £45·797 of tax chargeable on B, and for £4·203, the interest on the same.



(1.) When a capital  $P$  is invested in an annuity, and continually reinvested, as the capital is repaid, in annuities terminable in  $n$  years, and the annuity ( $I$ ) is taxed at the rate of  $\frac{a}{i}$  annually, the result is that in every  $n$  years, the whole of the property, as well as the interest on it, is taxed at the rate of  $\frac{a}{i}$  in the £1.

The capital which is invested in an annuity for  $n$  years is returned in that time with interest ;

$v^n$  I is the present value of £I payable in  $n$  years, when it amounts to £I.

\* \* \* \* \*

$v^1$ I	„	I	„	1 year	„	to £I
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The sum of these present values in the first column is  $I(v + v^2 + \dots + v^{n-2} + v^{n-1} + v^n) = IV_n =$  the present value of the annuity  $I = P$  the capital.

The *interest* of the capital invested is—as will be seen on considering Eq. 7, Section II—and as is evident above :

$$\begin{aligned} &= I \left\{ (1 - v^n) + (1 - v^{n-1}) + (1 - v^{n-2}) \dots + (1 - v^2) + (1 - v^1) \right\} \\ &= I \left( \frac{1}{v} - 1 \right) \left\{ n v^1 + (n-1) v^2 \dots \dots 2 v^{n-1} + v^n \right\} \\ &= I \left\{ n - (v^n + v^{n-1} + v^{n-2} \dots \dots + v^2 + v^1) \right\} \end{aligned}$$

And the amount which is paid on an annuity in  $n$  years is  $n I = P +$  the interest of the varying amount of capital under investment.

Thus:  $nI = \{ I(v + v^2 + v^3 + \dots + v^{n-1} + v^n) \}$

$$+ I \{ (1-v^n) + (1-v^{n-1}) \dots + (1-v^2) + (1-v^1) \}$$

$$= \mathbf{I}(v + v^2 + v^3 + \dots + v^{n-1} + v^n) + n\mathbf{I} - \mathbf{I}(v^1 + v^2 + \dots + v^{n-1} + v^n)$$

$\therefore n I - I V_n = \text{interest of capital} \therefore \text{interest} + I V_n = n I.$

And,  $\frac{a}{i} \cdot n I = \frac{a}{i} I V_n + \frac{a}{i} \times \text{interest of capital} = \text{amount}$

of tax on annuity.

Thus, if the interest of money is 3 per cent., an annuity of £1000, for the term of 14 years, may be purchased for £11,296; the amount of the dividend is  $14 \times 1000 = £14,000$ ; and  $14,000 - 11,296 = £2704$ , the entire interest of the capital while it remains invested. A tax of 3 per cent. on the dividends yields in the 14 years £420; which is £81.12 on the interest, and £338.88 on the capital. An annuity

of £1000 for 7 years is obtained by investing £6230, which returns £7000 in the dividends; namely, £770 of interest, and £6230 of capital. The tax is £210; namely, £23·1 on interest, and £186·9 on capital.

If the interest of money is 5 per cent., an annuity of £1000 for 7 years is obtained by investing £5786; returning in 7 years £7000; of which £1214 is interest, £5786 capital.

Under annuities terminable in 5, 10, 15, 20 . . . .  $n$  years, the capital is returned every 5, 10, 15, 20 . . . .  $n$  years. Under a tax, therefore, assessed at the rate of  $\frac{a}{i}$  in the £1 on the dividends of such

annuities, the interest is taxed at that rate; and of the capital  $\frac{a}{i}$  is taken in the course of every 5, 10, 15, 20,  $n$  years. In perpetual annuities  $n$  is infinite, and no part of the capital is touched.

$$\frac{a}{i} \frac{I}{n} (n - V_n) = \frac{a I}{i n} \left( n - \frac{1 - v^n}{i} \right) = \text{the average annual tax}$$

on the amount of interest, at the rate of  $\frac{a}{i}$  in the £1.

$$\frac{a}{i} \cdot \frac{I}{n} V_n = \text{the average annual tax on capital.}$$

$$\frac{a n I}{i n} = \frac{a}{i} \cdot I = \text{the annual tax on the annuity.}$$

As  $n I$  = the amount of annuity which is drawn in dividends;

and  $\frac{a}{i} \cdot n I$  = the aggregate tax on the same.

Then the tax, at the rate of  $\frac{a}{i}$  on the interest ( $i P$ ), is to the tax on the annuity as  $\frac{a}{i} (n - V_n) I : \frac{a}{i} n I :: (n - V_n) : n$ .

And  $n - V_n : n :: \frac{n}{n - V_n} : x$  = the ratio of the tax on the interest only, to the tax on the annuity. This function, keeping  $n$  an integral number, gives a maximum when  $n = 1$ ; when  $x = \frac{1}{1 - v} = \frac{1 + i}{i}$ ; and it falls to unity, its *minimum*, when  $n$  is infinite  $\therefore$  if

the tax is at the rate of  $\frac{a}{i}$  in the £1 on the dividends of a perpetual and of a terminable annuity, it is at the rate of  $\frac{a}{i}$  in the £1 on the interest in the former, and of  $\frac{n}{n - V_n} \cdot \frac{a}{i}$  in the £1 on the interest, in the latter case. If  $\frac{a}{i} = \cdot 03$ ; and  $i = \cdot 05$ ;  $n = 7$ ,

$$\text{then } \frac{n}{n - V_n} \times \cdot 03 = \frac{7 \times \cdot 03}{7 - 5\cdot 786373} = \frac{\cdot 21}{1\cdot 213627} = \cdot 17343.$$

While the tax is  $\cdot 03$ , or at the rate of 3 per cent. on the interest of the



property in perpetuity, it is 17·343 per cent. on the interest of the annuity for 7 years.

$$e = \frac{1 + v^1 + v^2 \dots + v^{n-1}}{i(v + 2v^2 \dots + nv^n)} = \text{ratio of the present value of the tax}$$
  
 $\frac{a}{i}$  on interest, to the value of the tax  $\frac{a}{i}$  on annuity for  $n$  years. It approximates to *unity* as  $n$  increases.

Case 2.—The perpetual annuity which the capital  $P$  will purchase is  $\frac{P}{V_\infty} = iP$ ; and the annual tax, at the rate of  $\frac{a}{i}$  in the £1 on the dividends is  $\frac{a}{i} \cdot \frac{P}{V_\infty} = aP$ .

The annuity for  $n$  years, which  $P$  will purchase, is  $\frac{P}{V_n} = \frac{iP}{1-v^n}$  for  $\frac{1}{V_n} = \frac{i}{1-v^n}$ ; and the annual tax, at the rate of  $\frac{a}{i}$  in the pound on such annuity, is  $\frac{a}{i} \cdot \frac{P}{V_n} = \frac{aP}{1-v^n}$ .

And  $\frac{a}{i} \cdot \frac{P}{V_\infty} \cdot V_\infty = \frac{a}{i} \cdot \frac{P}{V_n} \cdot V_n = \frac{a}{i} \cdot P$ . That is, the present value of a tax at any rate  $\left(\frac{a}{i}\right)$  in the £1 on an annuity for  $n$  years, is equal to the present value of a tax at the same rate of  $\frac{a}{i}$  in the £1 on a perpetuity, when the property from which the annuities are derived and the rates of interest are equal.

This fact is the groundwork of a singular fallacy which has puzzled some acute thinkers, mathematicians, and logicians; and may be thus stated. It is assumed, and admitted in the argument, that the income tax is perpetual.\* A has £3,333; he invests it in an annuity certain for 12 years; which, allowing the interest of money to be 3 per cent. per annum, will return an annuity of £333, nearly, payable at the end of each of the 12 years.

B has also £3,333, which he invests in the 3 per cents. (consols), at par, from which he derives £100 a year.

A's income tax at the rate of 3 per cent. on the terminable annuity, is £10 a year for 12 years; and as the tax, as well as the annuity, is worth 10 years' purchase, the present value of A's tax is £100.

B's income tax, at the rate of 3 per cent. on his annuity of £100, is £3 a year; the tax, as well as the annuity, is worth  $33\frac{1}{3}$  years' purchase, and the present value of the tax on B's annuity is therefore £100.

The value of the tax which is paid respectively by A and by B, on the same sum of money which each has invested, namely, £3,333, is in both cases £100; the income tax is therefore, it is said, equitable—as its value is in these cases, as well as in all other cases of the same kind, proportional to the property from which it is derived.

That the tax is not proportional in the two cases to the interest or

\* See Mr. Warburton's Evidence before the Income Tax Committee.

profit, is immediately proved; for in the first year, the interest of B's capital is £100, and the interest of A's capital is also £100; the tax therefore to be equitable ought to be the same: yet, in the case proposed, A is taxed in the year £10, while B is taxed only £3. The tax in that year on the profits of A is to the tax on the profits of B as  $3\frac{1}{3}$  to 1; instead of being 1 : 1, as it should be to preserve the proportionality. *A fortiori*, the tax on the profit of A and of B ceases to be proportional to the profit in the second, third, and every subsequent year; for while the profit of A diminishes every year, as the property diminishes, B's profit, as well as his property, remains invariably the same. The tax is therefore not equitable, as it is not in proportion to the profit.

The illusion is created by leaving out the element of Time, and referring only to Property, which does not in itself, like interest, involve any relation to time. It is proved that the value of this tax which is collected from A in 12 years is the same as the value of the tax collected on B and his successors, for an unlimited time, for 20, 40, 60, for 120 years—or for all time. But the fact that the values of two taxes on two properties of the same value are the same does not justify the inference that the properties are taxed equitably; for in order to be equitable the tax must be the same in the same time [see Axiom]; if the property is taxed £1 in one year, it must be taxed £2 in two years, £3 in 3 years. To tax one property as much for its protection by the State in one year as another of the same value is taxed in three years, is not equitable. To be equitable, proportionality between the tax, the *time*, and the property must be preserved.

The same reasoning may be applied to Rent, Interest of money, and Insurance. Thus A purchases *three* farms; he pays for each farm the same sum, £6,000. To the Farmer B he lets his first farm on a 14 years' lease at the rate of £200 a year; Farmer C applies for the second farm on a 7 years' lease; A, employing the reasoning of the fallacy, may say, "Yes, the farm is worth the same money as the farm of B, and I will let it you on the same terms: he pays me £2,800 for it, and you shall have your farm for the same sum—namely, £400 a year." Again D may apply for the third farm, as a yearly tenant, and A, reasoning as before, may say, "I will let you this farm, which is of the same value as the farms of B and C, for the same sum—namely, £2,800, which you must pay at the end of the year." The Farmers would probably fail to see the equity of these proposals.

A may on the same grounds, having lent £1,000, at the rate of 5 per cent. per annum, to B, for 6 years, and received £300 for it, say to C, another borrower, who wants £1,000 for 2 years: "Yes, I will lend you the same sum as I have lent B, and for the same interest, namely, £300, which will in your case be £150 a-year. You will both thus pay me the same interest for the same principal." The interest, it is true, is in the same proportion to the capital; but the instant the element of time is brought into account, the illusion is dispelled. A asks C 15 per cent. *per annum*, for his money, in the latter case.

If the same tax is to be paid by one person in twelve years as is paid by another in twenty-four years, or for ever, it may be shown that the same premium should be paid to insure the same sum for one year, as is required to insure it for the whole term of life. A whole genus of fallacies may be invented, where the ratio is compound, by establish-



ing the proportionality in certain elements, and neglecting others which are overlooked by the mind. The fallacy ascribed to Zeno of Achilles and the tortoise, which Archbishop Whateley has adapted in his logic, is of this character. In both fallacies the illusion is created by the play on the same element; in both it is easy to prove that the contrary is true; in both it is found that few detect the logical error.

If the owner of one property cannot be taxed twice as much as the owner of another property of the ame value, in the *same* time, neither can the holder of a temporary annuity be justly taxed to the same amount as he is in the first year, either during the second or any subsequent year; for the amount of property in the annuity constantly decreases. Thus, an annuity of £1000 for seven years—if the interest of money is 5 per cent. per annum—is worth £5786·373; the interest on which is £289·31865; a tax of 3 per cent. on the interest, or of ·15 per cent. ( $a = .0015$ ) on the principal, is £8·679.

		Tax fairly chargeable on Interest.	
		£	£
1st year.	Principal.....	5786·373	
	Interest .....	289·319	8·679
		<hr/>	
		6075·692	
	Deduct Annuity	1000·000	
		<hr/>	
2nd year.	Principal.....	5075·692	
	Interest .....	253·785	7·614

The equivalent *uniform* tax is £5·436, by Eq. 15.

SECTION VI.—*Taxes upon Life Annuities and on Life Interests in Rents from unfailing sources.*

Life annuities terminate, as well as annuities certain for terms; and they terminate inevitably within a limited time. Within that time the probability that the annuity will continue or end is expressed by Life Tables.

Case 1.—A has a life interest in an estate yielding a constant rent = I; B has the absolute reversion. A certain tax per £1 =  $a$ , is levied annually on the property; what is the present value of A's share of the tax?

If the tax is assessed immediately before the rent is due, that is, upon the value of the first and of all subsequent rents, then the value of A's life interest at the age  $x$  is  $= I \cdot \frac{N_x}{D_x}$ ; and  $a I \frac{N_x}{D_x}$  = the tax for a year chargeable on A. The same reasoning applies to the subsequent years, and it is found that in all cases at the age  $x + n$ , A's share of the tax is  $\frac{a I N_{x+n}}{D_{x+n}}$ . But the present value at the age  $x$ , of £1 payable at the age of  $x + n$ , if a given person is alive at that age, is  $\frac{D_{x+n}}{D_x} = \frac{v^{x+n} \cdot l_{x+n}}{v_x \cdot l_x} = \frac{l_{x+n}}{l_x} \cdot v^n$ ; where  $l_x$  represents the numbers in a life table at the age  $x$ , and  $l_{x+n}$  the numbers who attain the age  $x + n$ ,  $\frac{l_{x+n}}{l_x}$  the chance at the age  $x$  of attaining the age  $x + n$ .

If A is alive at the age	The present value of the tax payable then
$x$	is $a I \frac{D_x}{D_x} \cdot \frac{N_x}{D_x} = a I \frac{N_x}{D_x}$
$x + 1$	is $a I \cdot \frac{D_{x+1}}{D_x} \cdot \frac{N_{x+1}}{D_{x+1}} = a I \frac{N_{x+1}}{D_x}$
$x + 2$	is $a I \frac{D_{x+2}}{D_x} \cdot \frac{N_{x+2}}{D_{x+2}} = a I \frac{N_{x+2}}{D_x}$
$x + 3$	is $a I \cdot \frac{D_{x+3}}{D_x} \cdot \frac{N_{x+3}}{D_{x+3}} = a I \frac{N_{x+3}}{D_x}$
*	*
$x + n$	is $a I \frac{D_{x+n}}{D_x} \cdot \frac{N_{x+n}}{D_{x+n}} = a I \frac{N_{x+n}}{D_x}$

By taking the sum of these Equations the value of A's share of so much of the tax as is payable  $(n + 1)$  times in  $n$  years, is found to be

$$C = a I \frac{N_x + N_{x+1} \dots + N_{x+n}}{D_x} = a I \frac{S_{x|n+1}}{D_x}$$

If  $x + n$  is an age beyond the eldest in the Life Table, this becomes  $C = a I \frac{S_x}{D_x}$  = the present value of A's share of the tax, assessed and payable at the beginning of every year, on the value of the annuity including the first payment then due.

Then the uniform annual premium chargeable on A of which  $a I \cdot \frac{S_x}{D_x}$  is the value, is found by proportion :

$$\frac{N_x}{D_x} : 1 :: a I \frac{S_x}{D_x} : a I \frac{D_x}{N_x} \cdot \frac{S_x}{D_x} = a I \cdot \frac{S_x}{N_x} = c_x$$

$c_x$  = uniform annual tax payable by A during his life out of the life annuity, of which a payment is due at the age  $x$ .

The annual tax on the perpetuity, assessed in the same way, is  $a I (1 + V_\infty) \therefore a I \left(1 + V_\infty - \frac{S_x}{N_x}\right)$  = the part of the uniform annual tax which is chargeable annually on the reversioner during the life of A. A table of these values is given in the evidence taken before the Parliamentary Committee on the Income Tax.

(2.) Let the tax now be assessed at the age  $x$  on the value of the annuity, of which the first payment is to take place at the age  $x + 1$ ; then the present value of such annuity is  $I \frac{N_{x+1}}{D_x}$ , and the tax as-

essed is  $a I \cdot \frac{N_{x+1}}{D_x}$ , which is due at the end of the year, whether A is alive or not. Thus at the age  $x + n$ , the tax then assessable and due at the age  $x + n + 1$  on  $I = 1$ , is  $a \frac{N_{x+n+1}}{D_{x+n}}$ ; the value of which at the age  $x + 1$  immediately before the first payment is due, is  $a \frac{N_{x+n+1}}{D_{x+n}} \cdot \frac{D_{x+n+1}}{D_{x+1}} = a \frac{N_{x+n+1}}{D_{x+1}} \cdot \frac{D_{x+n+1}}{D_{x+n}}$ . A series of this kind may be constructed, but it does not exist in the Life Tables. Still  $\frac{D_{x+1}}{D_x} \cdot \frac{N_{x+1}}{D_{x+1}} = v \frac{l_{x+1}}{l_x} \cdot \frac{N_{x+1}}{D_{x+1}} = \frac{N_{x+1}}{D_x}$ ; and it is an advantage if the



tax can be made payable only, if the tax-payer is alive, at the end of the year of assessment. Now  $v \frac{N_{x+1}}{D_{x+1}}$ , payable at the end of the year if A survive, is of the same value as  $v \frac{l_{x+1}}{l_x} \cdot \frac{N_{x+1}}{D_{x+1}}$ , certain.

And generally  $\frac{N_{x+n+1}}{D_{x+n}} \cdot \frac{D_{x+n+1}}{D_{x+1}} = \frac{N_{x+n+1}}{D_{x+1}} \cdot \frac{D_{x+n+1}}{D_{x+n}}$ .

Also  $\frac{N_{x+n+1}}{D_{x+n+1}} \cdot \left( \frac{D_{x+n+1}}{D_{x+n}} \right) \frac{D_{x+n+1}}{D_{x+1}} = \frac{N_{x+n+1}}{D_{x+n+1}} \cdot v \cdot \left( \frac{l_{x+n+1}}{l_{x+n}} \right) \cdot \frac{D_{x+n+1}}{D_{x+1}}$ .

If the payment of the tax is made contingent on the tax-payer at the age  $x+n$  attaining the age  $x+n+1$ , then  $\frac{l_{x+n+1}}{l_{x+n}}$  may be struck out of the last equation, which becomes  $v \frac{N_{x+n+1}}{D_{x+1}}$ . And

$C = a I v \frac{(N_{x+1} + N_{x+2} \dots + N_{x+n})}{D_{x+1}} = a I v \frac{S_{x+1|n}}{D_{x+1}}$  = the value of a tax at the rate of  $a$  in the £1 on the successive values of a life annuity, assessed at the beginning, payable at the end of every year for  $n$  years if the annuitant is alive; the valuation being taken at the age  $x+1$ , immediately before the annuity assessed at the age  $x$  is paid.

If  $x+n$  exceeds the greatest age in the Life Table,  $C = a I v \frac{S_{x+1}}{D_{x+1}}$ .

And  $C = a I v \frac{S_{x+1}}{N_{x+1}}$  = the equivalent uniform annual tax.

(3.) If the tax is made payable at the time it is assessed, age  $x$ , then  $C = a I \cdot \frac{S_{x+1}}{D_x}$  = the present value of the tax.

And  $C = a I \frac{S_{x+1}}{N_x}$  = the equivalent uniform annual tax, the first payment at the age  $x$ .

The composition of the absolute reversioner B under the three modes of assessment and valuation is:

$$(1.) \quad C = a I \left\{ \left( \frac{1+i}{i} \right)^2 - \frac{S_x}{D_x} \right\}$$

$$(2.) \quad C = a I \left( \frac{1+i}{i^2} - v \frac{S_{x+1}}{D_{x+1}} \right)$$

$$(3.) \quad C = a I \left( \frac{1}{i^2} - \frac{S_{x+1}}{D_x} \right).$$

The annual tax chargeable on the reversioner during A's life is under the three modes of assessment.

$$(1.) \quad C = a I \left( \frac{1+i}{i} - \frac{S_x}{N_x} \right) = a I \left( 1 + V_\infty - \frac{S_x}{N_x} \right)$$

$$(2.) \quad C = a I \left( \frac{1}{i} - v \frac{S_{x+1}}{N_{x+1}} \right) = a I \left( V_\infty - v \frac{S_{x+1}}{N_{x+1}} \right)$$

$$(3.) \quad C = a I \left( \frac{1}{i} - \frac{S_{x+1}}{N_x} \right) = a I \left( V_\infty - \frac{S_{x+1}}{N_x} \right).$$

And if the tax of the absolute reversioner B (2) is paid by A from

his age  $x + 1$ , its amount at the end of the year in which A dies will be  $a I \left( \frac{1}{i} - v \frac{S_{x+1}}{N_{x+1}} \right) \frac{N_{x+1}}{M_{x+1}}$ .

The tax equitably chargeable in other cases in which more than one life is involved can be solved. Thus,

The tax on the value of an annuity on joint lives, is  $a I A_{x,y}$   
 $= a I \frac{N_{(x,y)+1}}{D_{x,y}} =$  tax chargeable on the holder of such an annuity in the year that the lives are of any age,  $x$  and  $y$ .

The tax chargeable in the year on an annuity to a life age  $y$ , after the death of a life age  $x$ :

$$a I (A_x - A_{x,y}) = a I \left( \frac{N_{x+1}}{D_x} - \frac{N_{(x,y)+1}}{D_{x,y}} \right)$$

The tax chargeable in the year on the holder of an annuity on the longest of two lives:

$$a I (A_x + A_y - A_{x,y}) = a I \left( \frac{N_{x+1}}{D_x} + \frac{N_{y+1}}{D_y} - \frac{N_{(x,y)+1}}{D_{x,y}} \right)$$

#### SECTION VII.—*Taxes upon Property in Life Incomes from Professions, Commerce, Trade, and Manufactures.*

The characteristic of this property is that it is inherent in man, and is the value of his services—of the direct produce of his skill and industry. In slaves it is vendible and transferable; in freemen it is inalienable; but is not the less on that account property, which in the early states of society is assessed and taxed in the form of personal services. It is combined with stock in all productions; and the proportion of the elements varies in every kind of product.

The labour of the parents, and the expense of attendance, nurture, clothing, lodging, education, apprenticeship, practice, are investments of capital, at risk extending over many years; and the return appears in the form of the wages, salaries, incomes, of the survivors, commencing at various ages, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, and ages still greater; for the incomes in the higher professions increase probably up to the age of 50 or 55. The outgo increases from infancy up to a certain age; the earnings then commence, and ere long equal the outgo; they are subsequently in excess throughout manhood, and at advanced age decrease, until they are extinguished amidst the feebleness and infirmities of old age. The present value of the person's probable future earnings, *minus* the necessary outgo in realizing those earnings, is the present value of that person's services. Like capital invested in the soil, in the vintage, or in a commercial adventure, the capital invested in the life of man returns, in happy natures, profit of a hundred-fold; in other cases fifty, twenty, tenfold; in others it is barely returned; in some it is entirely lost, either by death, sickness, vice, idleness, or misfortune.

A large part of the profit of trade, and even of professions, is derived from external capital. I leave this for the moment out of consideration. And then, in large classes of cases, as well as in individuals, the incomes differ; but they will be found, on an average, to bear a very constant relation to the amount of capital invested in preparation—to the risk under which it is exposed—and to the time that it is under investment. The latter element is of greater importance than is generally imagined; for the fact that the earnings commence at



ages ranging from 15 to 45, will account for much of the difference in the incomes of different classes. This may be illustrated by cases of deferred annuities. Thus, if interest is reckoned at 5 per cent., £100 a-year from birth to the age of 15 is worth £148 a-year from that age to the end of life; £100 a-year from birth to the age of 25 is worth £362 a-year from that age to the end of life; £100 a-year from birth to the age of 30 is worth £540 a-year from that age to the end of life; £100 a-year from birth to the age of 40 is worth £1180 a-year from 40 to the end of life. Thus, capital yielding the same profit in different professions may, during the age of return, yield average incomes respectively of £100, £200, £300, £400, £500, . . . . . £1000.

The following table has been calculated by the formula  $\frac{N_{o|x}}{N_x}$  = the deferred annuity which a premium of £1 a-year from birth to the age  $x$  will provide from that age to the oldest age in the Life Table.

*The Deferred Annuity which a Premium of £100 a-year will purchase if continued up to the Ages of 15, 25, 30, and 40 years respectively, allowing either 3 or 5 per cent. per Annum Interest.*

[Results deduced from the New English Life Table.]

Age.	3 per Cent.	5 per Cent.
	£	£
15 .....	91·42	148·36
25 .....	202·75	362·10
30 .....	287·12	539·72
40 .....	563·36	1180·05

Thus the premium of £100 a year, allowing the rate of interest to be 5 per cent. per annum, provides deferred annuities of £148·36; £362·10, £539·72, and £1180·05, according as the premium is continued from birth to 15, 25, 30, or 40 years.

From the English Life Table we find the number of persons who live from birth through every year of age to the end of a century. Let the average wages, salary, or professional income, earned in the year of age  $x$  to  $x + 1$  be represented by  $w_x$ ; then as  $P_x$  represents the numbers in the Life Table living through that year;  $w_x P_x$  will be the sum of the wages; in like manner  $w_{x+1} P_{x+1}$  will be the sum of the wages in the year of age  $x + 1$  to  $x + 2$ ; and so on to the end of the table, age  $w$ . Let this column be added up from the oldest age to the age  $x$ , and the sum be represented by  $W_x$ ; then  $W_o$  against the age 0 is = the sum of the wages of the generation. As the sum of the column  $P_x$  in the Life Table is  $Q_o$  = the total numbers living at all ages, to a given number of births,  $D_o$ : it is evident that  $\frac{W_o}{Q_o}$  = the average annual earnings per head of the whole generation; and  $\frac{W_o}{D_o}$  = the average earnings of each person from birth to the end of his life.

So if the average cost of maintenance of a child age 0 to 1 were known to be  $y_o$ ; and of a person through any year of age  $x$  to  $x + 1$  were  $y_x$ ; then the cost of maintaining  $P_x$  persons would be  $y_x P_x$ ; and the sum of a column of such numbers from the end of the table to the

age  $x$  would be  $Y_x$ ; the cost of the maintenance of the generation would be  $Y_o$ . The difference between the wages and the cost of maintenance is  $W_o - Y_o$ ; or the surplus of the earnings over the cost of necessary subsistence.  $W_o - Y_o$  may be called the profit; as  $W_o$  represents the produce;  $Y_o$  the cost of production. Then  $\frac{W_o - Y_o}{Q_o}$  = the *annual* profit per head; and  $\frac{W_o - Y_o}{D_o}$  = the average aggregate gain on the life of each individual.

If we assume for a moment that the profit  $W_o - Y_o$  is in the possession of an individual A; and is a transferable value; the price will depend upon the rate of interest ( $i$ ) at which investments of the kind are made. Thus, if the rate of interest is 5 per cent. per annum, the annual revenue  $W_o - Y_o$  will be worth 20 years' purchase. For in this case  $\frac{W_o - Y_o}{i} = \frac{W_o - Y_o}{.05} = 20 (W_o - Y_o)$ . The produce or

income will be at the rate of  $\frac{100 W_o}{20 (W_o - Y_o)} = \frac{5 W_o}{W_o - Y_o}$  per cent. on the capital; the expenditure or outgo  $\frac{5 Y_o}{W_o - Y_o}$  per cent.; the profit  $\frac{5 W_o - 5 Y_o}{W_o - Y_o} = \frac{5 (W_o - Y_o)}{(W_o - Y_o)} = 5$  per cent. on the capital invested.

If instead of the series  $P_x$  in the Life Table, the series  $1 + \frac{i}{2} \cdot P_1$ ;  $(1 + \frac{i}{2}) v^{x+1} P_x$  be employed; the present values at birth, and at any age  $x$  (1) of the future wages, (2) of the future cost of maintenance, are immediately obtained: the difference is the value of the future profit. And on dividing by the column  $D_x = v^x l_x$ , the present value of the average wages, cost, and profit of a man of the age  $x$  is found.

The values of  $w_x$  and  $y_x$  can only be learnt by observation. And the actual wages of classes of men in different trades and professions, as well as the actual cost of education and maintenance, are *desiderata* in Statistics.

The Tables from which an extract is given at the end of this paper, have been framed from returns of the wages of agricultural labourers, with which I was some time ago favoured by Sir James Kay Shuttleworth, and from returns collected by witnesses before a committee of the House of Commons.

The cost of maintenance is an estimate. Instead of the series\*  $P_x^1$ , the series  $D_x$  has been used throughout, (Table VII.) which is equivalent to assuming that the wages and cost in the several years of age were equal in value to the sums in the columns  $w_x$  and  $y_x$ , paid down to or for each person at the precise age  $x$ . The character of the results is thus indicated with sufficient exactness for illustration and all practical purposes.

It will be seen that at the age 20, the value of an agricultural labourer's future wages is £482; that the value of the estimated cost of necessary maintenance is £248; that the net value of his services is therefore £234.

I have now discussed, in Part I. the general principles of a property-

\* The above series,  $P_x^1$ , is not in the Life Table, and I have only had it calculated at 3 per cent. interest, for Table VIII. in which it was used.



tax; and in Part II. the principles on which tables may be constructed for assessing the tax equitably.

In Part III., which I may, perhaps, be able to bring under the notice of the Society at some future time, I shall endeavour to show how, at the least expense and inconvenience, these principles can be applied practically to different kinds of property, in the possession of different classes of the community. In the meantime, I beg to refer, for an outline of this branch of the subject, to the draft Report of the Chairman (Mr. Hume) in the proceedings of the Committee of the House of Commons on the Income and Property-Tax.\*

It may be sufficient to state here, that professional incomes fluctuate less than it is generally supposed; that in assessing the property-tax at the beginning of the year, it may be assumed that the income will remain uniform (it may be more or less, but in general this is the most probable hypothesis); subject to the chance of death, and the discount of money at such a rate of interest as will cover all other risks. The value of a professional income must be nearly equivalent to a life annuity, in which money is taken at some rate between 3 and 10 per cent. per annum. For the present, I propose to use a table which is based on the rate of 5 or 6 per cent. interest. And a sum must be deducted for the cost of subsistence.

TABLE IV.

*Digest of Sir J. Kay Shuttleworth's Return of the Wages of the Best Class of Labourers in Norfolk.*

Age.	Number of Labourers.	Earnings of Man.	Earnings of Wife and Children.	Earnings of Family, including Gleaning.
		£	£	£
17—20....	4	77	....	77
20—25....	14	374	7	381
25—30....	27	813	39	852
30—35....	37	1,160	137	1,297
35—40....	37	1,140	175	1,315
40—45....	37	1,164	237	1,401
45—50....	29	924	274	1,198
50—55 ...	19	581	134	715
55—60 ...	13	407	90	497
60—65....	4	126	31	157
65—70....	3	77	7	84
70—75....	2	36	4	40
75—80....	1	16	....	....
80—85....	....	....	....	....
85.....	....	....	....	....
Total.....	227	6,895	1,135	8,014

\* See also the whole of the evidence of the several witnesses. An outline of a classification of property, and several numerical examples are given in my evidence. I take this opportunity of correcting an arithmetical error in one of the examples. For the three last lines at bottom of p. 217, Qu. 4958, read

3)154,251

Value of Stock51,417

Deduct500

50,917 C's tax is £50·917.

TABLE V.

*Digest of the Return of Wages of Agricultural Labourers in Bedfordshire.  
By Turner; (corrected by Pearse.)*

[From evidence before Parliamentary Committee of Inquiry into New Poor Law.]

Age.	Number of Labourers.	Earning of Labourers.
15—20 .....	3	£ 32
20—25 .....	7	144
25—30 .....	13	291
30—35 .....	12	280
35—40 .....	7	201
40—45 .....	14	360
45—50 .....	6	113
50—55 .....	3	48
55—60 .....	2	34
60—65 .....	4	68
65—70 .....	3	62
70—75 .....	3	30
75 .....	1	3
Total .....	78	1,666

TABLE VI.

*Of the Wages and of the Cost of Maintenance of Agricultural Labourers in England. (Extract from a Complete Table.)*

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Age	Living at each Age,	Sum of the Living at each Age and upwards,	Expense of Maintenance per Annum for one Person,	Wages Earned per Annum by one Person,	Expense of Maintenance for all the Living in the year following the Age $x$ ,	Wages Earned by all the Living in the year following the Age $x$ ,	Expense of Maintenance for the whole of the Living at each Age $x$ and upwards,	Wages of all Living at the Age $x$ and upwards,	Net Profit = the Difference between the Income and Outgo,
$x$ .	$l_x$ .	$N_x$ .	$y_x$ .	$w_x$ .	$y_x l_x$ .	$w_x l_x$ .	$Y_x$ .	$W_x$ .	$(W_x - Y_x)$ .
0	513	20,961	£ 7	£ ....	£ 3,591	£ ....	£ 268,539	£ 420,488	£ 151,949
5	372	18,848	7	....	2,604	....	253,741	420,488	166,747
10	355	17,029	8	....	2,840	....	241,008	420,488	179,480
15	346	15,272	12	12	4,152	4,152	224,501	415,249	190,748
20	335	13,561	15	23	5,025	7,705	201,945	386,913	184,968
25	321	11,914	15	29	4,815	9,309	177,240	344,124	166,884
30	307	10,337	15	31	4,605	9,517	153,585	297,143	133,558
35	291	8,834	15	31	4,365	9,021	131,025	250,519	119,494
40	275	7,410	15	31	4,125	8,525	109,665	206,375	96,710
45	257	6,071	15	31	3,855	7,967	89,580	164,866	75,286
50	237	4,826	15	31	3,555	7,347	70,905	126,271	55,366
55	215	3,685	15	31	3,225	6,665	53,790	90,900	37,110
60	189	2,660	15	31	2,835	5,859	38,430	59,156	20,726
65	156	1,780	15	29	2,340	4,524	25,215	32,008	6,787
70	118	1,074	15	21	1,770	2,478	14,625	13,807	— 818
75	79	560	15	16	1,185	1,264	6,915	4,359	— 2,556
80	44	239	15	4	660	176	2,100	378	— 722



The Table VI. is read thus : of 513 males born annually, 335 attain the age of 20 ; and the sum of the numbers who attain that and every subsequent birthday is 13,561 : the expense of bare maintenance in the year following is £15 (rather less than 6s. a week) ; the wages of one labourer in the same year are £23 ; the cost of maintaining the 335 is £5,025 ; their wages amount in the same time to £7,705 ; the cost of maintaining all at and above that age is £201,945, while their wages are £386,913 ; the difference or the net annual profit is £184,968.

TABLE VII.

(1.) *Money Value of a Man ; or a Table of the Value of the Future Earnings and of the Cost of Maintenance of an Agricultural Labourer. (Interest 5 per Cent.)*

Age.	Present Value of			Annuity Equivalent in Value to		
	Future Earnings,	Cost of Future Maintenance,	Excess of Earnings over Cost of Maintenance,	Future Earnings,	Cost of Future Maintenance,	Excess of Earnings over Cost of Maintenance,
	$\frac{W_x}{D_x}$ .	$\frac{Y_x}{D_x}$ .	$\frac{W_x - Y_x}{D_x}$ .	$\frac{W_x}{N_x}$ .	$\frac{Y_x}{N_x}$ .	$\frac{W_x - Y_x}{N_x}$ .
	£	£	£	£	£	£
0....	147·89	142·52	5·37	10·75	10·36	·39
5....	260·32	204·38	55·94	14·81	11·63	3·18
10....	347·88	231·01	116·88	19·84	13·17	6·67
15....	438·85	247·30	191·55	25·73	14·50	11·23
20....	482·06	248·47	233·59	29·10	15·00	14·10
25....	487·90	241·55	246·35	30·31	15·01	15·31
30....	474·35	233·19	241·16	30·53	15·01	15·52
35....	451·73	223·51	228·22	30·35	15·02	15·34
40....	423·71	211·69	212·02	30·02	15·00	15·02
45....	391·11	198·35	192·76	29·59	15·01	14·58
50....	350·64	182·27	168·37	28·78	14·96	13·82
55...	301·41	163·59	137·82	27·46	14·91	12·56
60....	238·29	141·08	97·22	24·76	14·66	10·10
65....	165·20	119·20	46·00	19·93	14·38	5·55
70....	97·09	96·32	·77	13·92	13·81	·11
75....	49·11	73·66	— 24·55	8·55	12·82	— 4·27
80....	10·25	51·27	— 41·01	2·20	11·00	— 8·80

TABLE VIII.

(1.) Values of the Future Wages of Agricultural Labourers of a high (A) and low (B) class.  
(2.) Values of the Incomes of Persons in a Profession.  
The values are given on the assumption that the interest of money is 3 per cent. The amount of the future income is the average amount received after the Ages in the first column.

Age.	Interest 3 per Cent.			Without Interest.		
	Value of Future Wages and Salaries.			Amount of Future Wages and Salaries.		
	Of Agricultural Labourers.		Of Persons in Professions on Moderate Incomes.	Of Agricultural Labourers.		Of Persons in Professions on Moderate Incomes.
	On High Wages.	On Low Wages.		On High Wages.	On Low Wages.	
	£	£	£	£	£	£
11....	542	....	....	1,187	....	....
15....	607	456	....	1,195	886	....
20....	637	487	....	1,151	859	....
25....	627	481	5,329	1,068	796	10,462
30....	597	459	5,700	965	718	10,240
35....	556	424	5,951	856	629	9,844
40....	509	373	6,038	746	530	9,250
45....	456	312	5,932	636	427	8,451
50....	397	253	5,584	527	335	7,424
55....	330	201	4,933	416	256	6,140
60....	255	157	3,979	306	191	4,641
65....	172	116	2,718	198	135	2,961
70....	100	72	600	112	80	609
75....	49	32	....	52	34	....
80....	8	5	....	8	5	....

The table is read thus.—The value of the future earnings of (1) an agricultural labourer on good wages at the age of 25 is £627, (2) of an agricultural labourer on low wages £481, (3) of persons in a profession returning a moderate income of about £288 a year is £5,329; the average amount of wages after that age is £1,068, and £796, and £10,462 respectively.

Here  $Q_x^1 = 1 + \frac{i}{2} (v^{x+1} P_x + v^{x+2} P_{x+1} \dots + v^{w+1} P_w)$ . And  $P_x$  the average number of persons living through the age  $x$  to  $x + 1$  by the Life Table.

$W_x$  is obtained from the series  $Q_x^1$  by multiplying the several terms by  $w_x, w_{x+1} \dots$

Then  $\frac{W_x}{D_x}$  = the present value of the wages.

The values in Table VIII. are given on the extreme hypothesis that the wages are as certain to be paid as Government Life Annuities at 3 per cent. interest. Compare these values with those in Table VII., where the interest is 5 per cent.



*On the History and Consumption of Tobacco.* By JOHN CRAWFORD, ESQ.

[Read before the Statistical Society of London, 15th November, 1852.]

THE almost universal name by which this plant is known is no doubt derived from the Spanish word *Tabaco*, but from what source the Spanish word itself is derived, is by no means so certain. The dictionary of the Royal Academy of Spain derives it "from the name of the province where it grows, or from that of an island on the coast of South America." Las Casas and Charlevoix say that the Spaniards took the name from that of the pipe with which the plant was smoked, in the language of the Caribs of Hayti. This last derivation seems to be the most probable. Prescott tells us that the name of the plant in the Aster language is *yetl*, and the probability is, that each of the many American languages had a native name for it. Still, although the word *Tabaco* is now generally derived from the name of the pipe, this is scarcely reconcilable with the account given of it by Bernal Dias, one of the companions of Cortés, who calls it "*una yerva que se dice tabaco*," a plant called tobacco, as if he had been giving the Mexican name for it. As stated by Prescott, however, the narrative of Dias was written fifty years after the events he describes, and he may have adopted the then popular name of his countrymen.

Forty species of tobacco, or, in technical language, *Nicotiana*, have been described by botanists, all of which yield a narcotic principle, while several of them are cultivated for the same purpose as the common Virginian tobacco, that best known to us.

Of all the vegetable products consumed by man, tobacco is the most generally so, and the rapidity of its diffusion is one of the most remarkable facts in the history of commerce. It owes this to the wide geographical bounds within which it may be cultivated, to the facility with which it is grown, and its consequent cheapness, but, above all, to its narcotic quality. It may be grown without difficulty from the equator certainly to the 50th degree of latitude, but in our climate its growth requires something like forcing. Its most favourite climates extend from the equator up to about the 35th degree of latitude. Like the vine and tea-plant, the localities which yield it in the greatest perfection, are limited, and seem to depend both on soil and climate,—perhaps, too, on the species cultivated, and certainly on the skill and care with which it is cultivated and cured. The finest tobaccos cultivated in Western Asia are the *Latakia* (the ancient *Laodicea* in Syria,) and the *Shiraz*, the first being the species called *Nicotiana Rustica*, and the last *Nicotiana Persica*. In Hindustan, the finest tobacco takes the name of *Bilsah*, in the province of *Maliva*, between the 23rd and 24th degrees of latitude, and of *Kaira*, in *Gujrat*, in the 23rd degree. A fine but strong tobacco is produced in the province of *Cadoe*, in *Java*, in about the 7th degree of south latitude, and the tobacco from which are manufactured the celebrated

cigars of Manilla is the produce of Luçon, the principal island of the Philippine group, in about the 15th degree of north latitude. The finest tobacco of America is the produce of Cuba, almost under the northern tropic. It would seem from this account of the actual localities in which fine tobacco is raised that it has a range, even for the finest qualities, of at least 20 degrees of latitude, or from the 15th degree in the Philippine Islands to the 35th degree in Syria. The production of good tobacco demands every where a careful husbandry, and generally a dressing of rich manure. I know no exception to the necessity of manure, except in the richest soils of Java where it is cultivated, alternately with rice, without any dressing whatever. It is a scourging crop, or one that exhausts the soil, if not skilfully cultivated, when, indeed, no crop is exhausting.

A warm climate, or at least a warm summer, would seem to be indispensable to the production of a delicate-flavoured tobacco, but the narcotic quality, contrary to what might be expected, and as is the case with hemp and the poppy, would seem to be strongest in temperate regions. The valuations of an ordinary price current afford a good criterion by which to judge of the quality of the different sorts of tobacco, as far, at least, as they are presented in our markets. I quote the highest quality of each sort—Canada, 4*d.* a pound; Kentucky, 6*d.*; Virginia, 7*d.*; Maryland, 9*d.*; St. Domingo, 8*d.*; Turkey, 9*d.*; Columbian, 10*d.*; Cuba, 1*s.* 6*d.*; Havannah, 3*s.* 6*d.*

It seems now to be generally admitted, that all the species of tobacco are natives of America, and that the plant was unknown to the Old World, until introduced from the New. The Spaniards, as the first discoverers of America, must have been the first to learn the use of it from the natives, and, no doubt, also the first who brought it to Europe, and there propagated it. Columbus and his companions found it in use among the inhabitants of Cuba and St. Domingo, and Cortés and his companions among the Mexicans, and by either party it may have been introduced into Spain. There is, however, no account of the exact time at which it was first known in that country. In 1560, Jean Nicot, whose name is recorded in the generic name *Nicotiana*, an agent of the king of France, procured at Lisbon from a Dutchman some tobacco seeds, which he had brought from Florida. This was sixty-eight years after the discovery of America, and it is not likely that in that long period, it should not have been imported and propagated in Spain. That it was not generally so in Portugal, seems to be implied by Nicot's having got the seeds from a stranger in the country who had brought them direct from America. That the plant had a wide geographical range in America is certain, as Columbus found it cultivated and used in St. Domingo, Raleigh in Virginia, the Portuguese in Brazil, and Cortés in Mexico.

The French agent, Nicot, sent the seeds which he obtained at Lisbon to France in 1560, and hence its first introduction into that country is well ascertained. Sir Walter Raleigh, on his return from his first expedition to Virginia in 1586, is supposed to have first introduced tobacco, and the practice of smoking it, into England. If this was the case, it follows that tobacco was unknown in England for near a century (94 years) after the discovery of the



New World. The name most likely taken from the Spanish *Tabaco*, it may be observed, has with us undergone no change of orthography, for I find it written in the celebrated "Counterblast," just as it is now.

King James's celebrated "Counterblast" to tobacco, although said to have been printed earlier, without a date, was published in the collection of his works in 1616, only thirty years after the supposed introduction of the plant by Raleigh. "Now," says the king, "to the corrupted basenesse of the first use of this tobacco doeth very well agree the foolish and groundlesse first entry thereof into this kingdom. It is not so long since the first entry of this abuse amongst us here, as this present age cannot yet very well remember both the first author, and the forme of the first introduction of it amongst us. It was neither brought in by king, great conqueror, nor learned doctour of phisicke." One might almost fancy that in this passage King James pointed at Raleigh, stigmatising him as being neither king, conqueror, nor doctor.

In the short period of 30 years, to judge by the "Counterblast," the practice of smoking had become surprisingly common, and large sums seem to have been expended on it. "Now," says the Counterblast, "how you are, by this custome, disabled in your goods, let the gentry of this land bear witnesse, some of them bestowing three, some four hundred pounds a yeere upon this precious stinke, which I am sure might be bestowed upon many far better uses. . . . And for the vanities committed in this filthy custome, is it not both great vanitie and uncleannesse that at the table, a place of respect, of cleannesse, of modestie, men should not be ashamed to sit tossing of tobacco-pipes, and puffing of the smoke of tobacco, one to another, making the filthy smoke and stinke thereof to exhale athwart the dishes, and infest the aire, when, very often men that abhor it are at the repast? Surely smoke becomes a kitchin farre better than a dining chamber, and yet it makes a kitchin also oftentimes in the inward parts of men, soyling and infesting them with an unctuous and oily kind of soote, as hath been found in great tobacco takers that, after their death, were opened. And not onely meate time, but no other time nor action is exempted from the publicke use of this uncivillicke. . . . Moreover, which is a great iniquitie and against all humanity, the husband shall not be ashamed to reduce thereby his delicate, wholesome, and cleane-complexioned wife to that extremity that either she must also corrupt her sweet breath therewith, or else resolve to live in a perpetual stinking torment."

His Majesty King James's grotesque diatribe concludes with the following strange peroration. "Have you not reason then to be ashamed, and to forbear this filthie noveltie, so basely grounded, so foolishly received, and so grossly mistaken in the right use thereof? In your abuse thereof sinning against God, harming yourselves both in persons and goods, and raking also thereby the markes and rites of vanity upon you by the custome thereof, making yourselves to be wondered at by all forrein civill nations, and by all strangers that come among you to be scorned and contemned. A custome loathsome to the eye, hateful to the nose, harmfull to the braine, dangerous to the

lungs, and in the blacke stinking fume thereof nearest resembling the horrible Stigian smoake of the pit that is bottomlesse.”\*

If his Majesty's statement be not exaggerated, the expending of 300*l.* or 400*l.* a year on tobacco, and smoking during meal-times, certainly proves that the custom, in his time, had become a flagrant nuisance, while his account implies that we were the greatest smokers in Christendom, and a scandal among all civilized nations.

Notwithstanding King James's "Counterblast," the consumption in England went on increasing, and the very colony which the king himself countenanced in Virginia, became the chief source of supply, the first active cultivation of the plant corresponding nearly with the date of the publication of the "Counterblast."

The plant was also, at an early time after its introduction, cultivated in England, but was prohibited first by James I. and afterwards by Charles I., but apparently without effect. Finally, (another proof that the little finger of a republic is stronger than the loins of a monarchy,) the cultivation was wholly and effectually prohibited under the Commonwealth, in 1652, so that for 200 years, tobacco has been, in this country, only an object of foreign commerce, and an useful instrument for levying a modified poll-tax.

There can hardly be a doubt but that tobacco was introduced into the different countries of the East from Europe and by Europeans, and this too probably not in the earliest period of the intercourse of Europeans. Its European name is sufficient evidence of its European origin, and the supposed early and independent existence and use of the plant by the oriental nations must be looked on as purely imaginary. In Turkish, Persian, Arabic, and all the languages of Hindustan, the name is *Tambaku*, written *Tānbaku*. According to Mr. Lane, the modern translator of the *Arabian Nights*, the plant was introduced into Turkey and Arabia, about the beginning of the 17th century, that is, about 250 years ago, or above a century after the discovery of America.

There is no account of the exact time in which tobacco was introduced into Hindustan, but I have no doubt this was effected through the Portuguese, whose first arrival followed the discovery of America by no more than six years. The actual introduction and cultivation of the plant must have been long posterior to the first appearance of the Portuguese, for there is no mention of it in the memoirs of the conqueror Baber, who died in 1350, or two and thirty years after that event, although he enumerates many of the productions which he found in India.

The Portuguese found their way to the islands of the Malayan archipelago as early as 1511, where neither the conquerors of Malacca in that year, nor Barlisso, who had visited the place before, make any mention of tobacco, although giving a long list of native products.

In the Malay, the Javanese, and, indeed, all the other languages of the archipelago, it is known by small corruption of its Spanish or Portuguese name. This is *Tambaku*, which sounds as if it were taken directly from the Persian or Arabic. In the two leading languages of the Philippine Islands, the Talugu and Bisaya, the Spanish name

\* Works of King James, by the Bishop of Winton. London, 1616.



*Tabaco* is adopted with variation of orthography, and I may mention that in a long enumeration of the vegetable products of the Philippines, made by Pigafetta, the companion and secretary of Magellan, in 1521, no mention is made of tobacco, an article of which at present the consumption is positively rampant among all classes of a population exceeding 3,000,000. The only country of the Indian archipelago, indeed of the East, in the annals of which any direct mention is made of the date in which tobacco was first introduced is Java. This refers to the year 1601, or 118 years after the discovery of America, and 90 after the first appearance of the Portuguese in the waters of the archipelago. As the Dutch, although at this time they had made their appearance in Java, had as yet little intercourse with the people, it seems probable that it was the Portuguese who really introduced the plant, yet one is a little surprised to find them doing so thus tardily.

The people east of Hindustan on the continent, speaking, as they do, monosyllabic languages, cannot be expected to have adopted the European trisyllabic word tobacco. Their names for it, however, are not native ones indicating an indigenous origin of the plant. The Siamese, for example, call it by a name which means "a medicine," "physic," or "a remedy," and the Chinese call it *yen*, which is the word for "smoke." With most of these countries, such as Pegu, Siam, Camboja, China, and Japan, the Portuguese, not long after their conquest of Malacca, in 1511, maintained a tolerably busy intercourse, and it was, no doubt, through them the tobacco plant was introduced, but, probably, not earlier than in Java.

For many of the countries in which tobacco has now been long cultivated it has been, as already hinted, without any good ground whatsoever, claimed as an indigenous product. This has arisen from the universality of its culture and use, its being the only European custom universally adopted by all Asiatic people, its wide adaptation to many climates, its intrinsic hardiness and consequent facility of production. The same perplexity respecting origin, it will be observed, has obtained respecting maize, a plant which, for the same reasons, has been almost as widely disseminated as tobacco itself, and which, notwithstanding, is equally with it a native of America.

Tobacco is, next to salt, probably, the article most universally consumed by man. In one form or another, but most generally in the form of fume or smoke, there is no climate in which it is not consumed, and no nationality that has not adopted it. To put down its use has equally baffled legislators and moralists; and in the words of Pope, on a higher subject, it may be said to be partaken of "by saint, by savage, and by sage." The nations of Europe are the smallest consumers of tobacco of any people, in consequence of its being every where with them an object of heavy taxation, of its being very generally a foreign commodity, or high-priced, because raised in uncongenial climates, and, finally its being, for the most part, confined in use to the male sex.

Our own consumption is, probably, one of the smallest of any European nation. I will give it for the United Kingdom, for the years in which the census of our population has been taken.

*Consumption of Tobacco in the United Kingdom.*

Years.	Consumption.	Duty per lb.	Revenue.	Population.	Consumption per Head.
	£	s. d.	£		Ounces.
1821....	15,598,152	4 0	3,122,583	21,282,960	11·71
1831....	19,533,841	3 0	2,964,592	24,410,439	12·80
1841....	22,309,360	3 0*	3,580,163	27,019,672	13·21
1851....	28,062,978	3 0*	4,485,768	27,452,262	16·86

\* With an additional 5 per cent. on the duty.

From this, then, it appears that the consumption of tobacco has been gaining ground in this country during the last 30 years. The increase, it will be observed, is small in the second and third decennial periods; viz., about an ounce in each period. In the last period; however, there is a jump of more than *three* ounces over the preceding one, and of upwards of *five* over the first period, or one of nearly 44 per cent. in 30 years. There has been, there is no doubt, an increased taste for tobacco with the upper and wealthier classes of late years, but that alone, as in similar cases of an article of general consumption, would not account for the start which consumption has latterly made; and I have myself no doubt but that the true cause will be found in the fact that the mass of the people are in easier circumstances, or in other terms, that with cheaper food, they have more command over luxuries, of which tobacco is certainly one in the consumption of the working classes.

With respect to our revenue derived from tobacco, notwithstanding a reduction of near a shilling in the duty, it has advanced in 30 years by 40 per cent., and in the last 10 by upwards of 25 per cent. The duty is enormous, ranging from 400 to 1,400 on the ordinary kinds of American tobacco consumed. Such a duty must be, of necessity, a premium on smuggling, and tobacco, consequently, is reckoned the great staple of the contraband trade. Notwithstanding our exorbitant duty, it is certain that our mode of raising a revenue has a great superiority over the monopoly exercised by France. The French tobacco revenue in 1850, with a population of 36,000,000, amounted only to 122,037,000 francs, or about 4,880,000*l.*, whereas ours (with above eight millions and a half fewer) was barely 400,000*l.* less. The French tobacco revenue, to have kept pace with ours, ought to have approached to 6,000,000*l.*

In most of the countries of the continent of Europe, the tobacco revenue is raised by a government monopoly, and the supply is furnished both by home growth and foreign importation. There is, therefore, a difficulty in obtaining the quantities consumed, which I have not been able to surmount. In Denmark, however, on account of the climate, the whole of the tobacco consumed seems to be foreign, and in the supplement to the Revenue and Population Returns



published by the Board of Trade in 1851, there is an account of the quantity of tobacco taken for home consumption in that country, and it amounted, for the kingdom of Denmark exclusive of the Duchies, to 6,126,368 lbs. avoirdupois, in the year 1848; and the population being only 1,407,747, the consumption per head was, consequently, no less than 69·63, or nearly 70 ounces. The rate of duty is not stated, but it is evidently a mere trifle; for the total revenue in the same year for all tobacco, leaf or manufactured, was no more than 12,836*l.* which would make the duty per pound the mere fraction of a penny.

The consumption of nations living in tropical or warm countries, in which the plant is grown with facility, and where it is naturally cheap, must be far larger than that of any of the people of cold or even temperate Europe, and their capacity of consumption must be enhanced by the general freedom from taxation which tobacco enjoys. Tobacco is not, that I am aware of, made an object of taxation in any country of the East subject to native rule, and the only taxes imposed on it are those which it occasionally bears on importation, or *in transitu*. In this freedom from fiscal exaction it is consumed from Turkey to China, and, indeed, even to Japan. Among eastern nations, perhaps, the smallest consumption of tobacco is among some of the nations that are largest consumers of the areca root and betel pepper—as the inhabitants of the islands of the Malay archipelago. The largest consumers are, I believe, the Chinese and the nations lying between them and the Hindoos. I shall transcribe here two passages from the account of missions with which I was myself charged to the Siamese in 1821, and to the Birmese in 1826, to show the estimate I formed of the extent of the practice among this class of nations on the spot, and at a time when I certainly did not contemplate writing this sketch. “Among the Siamese,” it is observed, “the use of tobacco has become universal; they chew it in moderate quantities, but smoke it perpetually. A Siamese is seldom to be seen without a cigar in his mouth, or stuck behind his ear ready for use.” “The practice of smoking tobacco,” it was stated, “obtains universally amongst the Burmans of all ranks, of both sexes, and of almost all ages, for I have seen children scarcely three years old who seemed quite familiar with it. The mode of smoking is by cigars, which are composed of shredded tobacco, rolled up in the leaf of another plant, I believe a species of *figus*. Sometimes a little of the root of the tobacco plant is mixed up with the shredded leaf.”

As a matter of curiosity, I shall attempt to estimate the total annual production of tobacco, a plant the consumption of which, 360 years ago, was confined to the scanty population of the continent of America, and which was unquestionably unknown in every age to the people of the Old World. If the population of the earth be taken at 1,000 millions, and the consumption reckoned as equal to that of the kingdom of Denmark, or 70 ounces a head, the produce of the whole world will amount to near two millions of tons (1,953,125) a year. Seventy ounces a head, of course, far exceeds the average consumption of Europe in most of the countries of which tobacco, as before stated, is heavily taxed. It is certain, however, on the other hand, that it falls far short of the consumption of Asia, containing the majority of

mankind where women and children smoke as well as men, and where the article is, moreover, untaxed. Near half the British tonnage which "entered inward," or "cleared outward" last year, would be required to convey the quantity of this American weed which I have mentioned, and of which the value, at 2*d.* per pound, will amount to above thirty-six millions sterling (36,462,500*l.*). Certainly no invention ever made by man, has been so universally pervading as the seemingly trivial one of the use of tobacco.

Much has been said about the evil effects of tobacco, both to health and morals, but far more asserted than proved. We certainly do not live a day shorter than our ancestors, who were ignorant of it, and, assuredly, our morals are not worse than theirs, nor our habits and manners grosser. A few religious purists in the East abstain from the use of tobacco, more, however, by the way of mortification than from a conviction that its use is either sinful or hurtful to the health, notions that, certainly, have never occurred to the people of the East, among whom sobriety, expressly enjoined in their three prevailing religions, is far more general than with European nations. I think it can hardly be doubted that tobacco must, to a certain extent, have contributed to the sobriety both of Asiatic and European nations, by being, as it necessarily must be, substituted, in a greater or less degree, for inebriating beverages. With respect to the orientals this is certainly the opinion of Mr. Lane, the learned translator of the *Arabian Nights*, whose views, although I quoted them in a former paper, I will now repeat. "This herb," says he, "being in a slight degree exhilarating, and at the same time soothing and unattended by the injurious effects which proceed from wine, is a sufficient luxury to many who without it would have recourse to intoxicating beverages, merely to pass away hours of idleness." My friend Mr. Layard, the celebrated discoverer of the Nineveh marbles, who has had a more extensive intercourse with eastern nations than even Mr. Lane, holds on this subject the same opinion. It seems to me, on the whole, that the uncleanness accompanying the use of tobacco is the main objection to it. This is much mitigated with such eastern nations as purify the smoke by passing it through water, and aggravated in the case of European nations by the necessity, from inordinate taxation, of consuming the strongest, and, therefore, the most offensive varieties of the plant. This applies more especially to ourselves who are well known to consume stronger tobaccos than any other people.

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*On the Relation of the Price of Wheat to the Revenue.*  
Communicated by DR. GUY.

[Read before the Statistical Society of London, 20th December, 1852.]

It must be in the recollection of many members of this Society that, at the last meeting of last session, when I had the honour of communicating a paper, "On the Effect of the Remission of Taxes on the Revenue, in the Thirty Years, from 1822 to 1851 inclusive," the late Mr. Porter, in the very last observations he addressed to the Society, took occasion to connect the state of the revenue, at different periods, with the price of wheat; attributing the flourishing condition of our finances, and the successful result of a remission of duties, to the low price of this prime necessary of life, and the opposite state of things to its high price. As I was not then prepared to contest the soundness of Mr. Porter's opinion, and the Society seemed disposed to bow to his authority, his statement did not provoke discussion. As, however, I had occasion, after the meeting, to express to Mr. Porter my private opinion that a careful joint analysis of the revenue and the price of wheat would scarcely bear out the opinion he had expressed, it was with more than usual interest that I took the necessary measures to bring that opinion to the test of facts. In laying the result of my examination before the Society, I feel that the reference I have just made to the opinion of our late esteemed and lamented Treasurer, will invest the subject with unusual interest. The numerical results which called forth the comments of Mr. Porter, are embodied in the first of the following tables, which represents, for various intervals of time, the gain or loss accruing to the nation from the financial operations of the last thirty years,—such gain or loss being computed from the state of the revenue in the first and last years of the several series, combined with the balance of taxes repealed or newly imposed, with corrections for increase of population.

The facts comprised in this table do, to a certain extent, warrant the opinion that there is some connection between a low price of wheat and a flourishing state of the public finances; for in each of the two quinquennial periods, (1827 to 1831, and 1837 to 1841,) characterised by the want of success attending our financial operations, the price of wheat was higher than in any other of the six quinquennial periods. But, on the other hand, though the four quinquennial periods, characterised by successful financial operations, were also periods of comparatively low prices of wheat, the greatest success attended the two periods when the price of wheat was highest. Again, of the three decennial periods, the least successful (from 1832 to 1841) was not the period of the highest price of wheat, though the most favourable financial results did certainly coincide with the lowest average price. Lastly, though the price of wheat in the first and last period of fifteen years differed by only nine-pence, nevertheless the period of the most successful financial operations coincides with the highest of the two averages.

TABLE I.

	Gain or Loss to the Nation.	Average Price of Wheat.*	
<i>Periods of Five Years.</i>	£	s.	d.
1822 to 1826 .....	4,835,764 gain	56	1
1827 „ 1831 .....	2,572,840 loss	62	10
1832 „ 1836 .....	3,370,119 gain	49	1
1837 „ 1841 .....	2,478,722 loss	64	4
1842 „ 1846 .....	5,885,225 gain	52	10
1847 „ 1851 .....	2,241,932 gain	48	8
<i>Periods of Ten Years.</i>			
1822 to 1831 .....	1,913,697 gain	59	5
1832 „ 1841 .....	1,545,015 loss	56	9
1842 „ 1851 .....	6,796,150 gain	50	9
<i>Periods of Fifteen Years.</i>			
1822 to 1836 .....	5,346,659 gain	56	0
1837 „ 1851 .....	3,161,001 gain	55	3
<i>Period of Thirty Years.</i>			
1822 to 1851 .....	1,480,398 gain	55	7

\* The average prices of wheat, down to 1845, are taken from the Parliamentary Return, 262, as are also the amount of duty received on wheat and wheat-flour from 1825 down to the same date. The price and revenue from this source for later periods, and the other figures employed in this paper, are also taken from Parliamentary Returns. It is necessary to state this, as some of the tables recently published do not correspond with the Parliamentary Returns.

These facts will, perhaps, be better appreciated if the figures for the quinquennial and decennial periods are arranged in a tabular form, in the order of the greatness of the financial results, but omitting the details of the gain or loss to the revenue.

TABLE II.

Successful Financial Periods.	Price of Wheat.	Unsuccessful Financial Periods.	Price of Wheat.
	s. d.		s. d.
1842 to 1846 .....	52 10	1827 to 1831 .....	62 10
1822 „ 1826 .....	56 1	1837 „ 1841 .....	64 4
1832 „ 1836 .....	49 1	.....	...
1847 „ 1851 .....	48 8	.....	...
1842 „ 1851 .....	50 9	1832 „ 1841 .....	56 9
1822 „ 1831 .....	59 5	.....	...

From this table it is evident that there is no exact correspondence between successful or unsuccessful financial results and the price of



wheat; for the quinquennial period which is characterised by the most successful financial operations, is one in which the average price of wheat was as high as 52s. 10d., while the lowest average prices are seen to coincide with the two least successful of the four successful quinquennial periods. An exact coincidence between a successful result on the one hand, and a low price of wheat on the other, could only be brought about by first transposing the first two quinquennial periods, and then inverting the table thus modified. In the three decennial periods there is also, as already stated, a want of exact correspondence between the price of wheat and the degree of success attending our financial operations.

On the whole, there is in these tabular results just such a general coincidence between successful financial operations and a low price of wheat as must serve to provoke to farther inquiry, and to encourage a still more searching analysis.

The first inquiry which naturally suggests itself is, whether, setting aside, all fiscal alterations affecting the revenue, and disregarding increase of population, there is or is not any coincidence between the amount of the revenue and the price of wheat. The elements for this inquiry are comprised in the following table, in which, for convenience sake, the years are arranged in the order of the price of wheat, beginning with the year of highest average price.

TABLE III.

Years.	Price of Wheat.		Ordinary Revenue.	Years.	Price of Wheat.		Ordinary Revenue.
	s.	d.	£		s.	d.	£
1839.....	70	8	47,688,910	1837.....	55	10	46,199,190
1847.....	69	9	51,340,801	1846.....	54	8	52,950,202
1825.....	66	6	52,065,390	1833.....	52	11	46,170,600
1831.....	66	4	46,293,646	1823.....	51	9	51,508,376
1840.....	66	4	47,351,563	1844.....	51	3	53,317,092
1829.....	66	3	50,428,275	1845.....	50	10	51,719,118
1838.....	64	7	47,104,745	1848.....	50	6	52,422,338
1841.....	64	4	47,917,521	1843.....	50	1	51,069,978
1830.....	64	3	49,889,994	1836.....	48	6	48,591,180
1824.....	62	0	52,202,018	1834.....	46	2	46,425,263
1828.....	60	5	51,665,077	1849.....	44	3	52,310,768
1832.....	58	8	46,833,796	1822.....	43	3	53,652,473
1842.....	57	3	46,700,890	1850.....	40	3	52,177,141
1826.....	56	11	49,625,485	1835.....	39	4	45,893,369
1827.....	56	9	49,581,576	1851.....	38	5	51,669,553

The most cursory inspection of this table will serve to render it highly probable that the years of largest revenue are, taken one with another, also the years of low prices of wheat; for while only five out of the fifteen years of highest prices exhibit a revenue exceeding fifty millions, no less than ten of the fifteen years of lowest prices belong to that category. In order, however, to place this difference in a still clearer light, the following table has been prepared. It shows the average price of wheat and the mean revenue, in several groups of dear and cheap years, and the difference in the two sets of averages. The single exception to the rule is marked by an asterisk.

TABLE IV.

Number of Years.	Dear Years.		Cheap Years.		Average Difference in favour of cheap years.
	Average Price of Wheat.	Average Ordinary Revenue.	Average Price of Wheat.	Average Ordinary Revenue.	
	s. d.	£	s. d.	£	£
15	63 5	49,112,646	47 10	50,405,109	1,392,463
12	65 0	49,231,811	46 5	50,896,388	1,664,577
10	66 1	49,228,286	45 2	50,593,118	1,364,832
7	67 2	48,896,190	42 11	50,102,821	1,206,631
5	67 11	48,948,062	41 1	51,140,661	2,192,599
3	69 0	50,365,034	39 4	49,913,355	451,679*

This table exhibits results more uniform than might have been expected. In no less than five out of the six groups of years submitted to comparison, the favourable influence of a low price of wheat on the revenue is strikingly apparent; and it is only when the comparison is made between groups of years so small as to give large scope for the play of coincidences, that an opposite result is arrived at. But even in this case, the difference of the revenue in the two triennial groups (less than half a million) is considerably less than the smallest difference (nearly a million and a quarter) in the opposite direction.

It will, perhaps, naturally be suggested that the influence of a low price of wheat is likely to be shown, not in the revenue of the year of low price, but in that of the year following. I have, therefore, proceeded to arrange the facts contained in Table III., in such a manner as to test the value of this suggestion. The results are given in the following table, in which, from the necessity of the case, the groups of fourteen years are substituted for those of fifteen years, the other groups remaining unchanged.

TABLE V.

Number of Years.	Dear Years.		Cheap Years.		Difference in Price of Wheat.	Annual Excess of Ordinary Revenue in Cheap Years.	Annual Excess of Ordinary Revenue in Cheap Years per shilling of Price.
	Average Price of Wheat.	Average Ordinary Revenue.	Average Price of Wheat.	Average Ordinary Revenue.			
	s. d.	£	s. d.	£	s. d.	£	£
14	63 10	48,859,997	48 6	50,348,868	15 4	1,488,871	99,258
12	65 0	48,615,701	47 5	50,536,550	17 7	1,920,849	106,714
10	66 1	48,678,953	46 5	50,781,132	19 8	2,102,179	105,109
7	67 2	48,818,515	44 7	50,118,748	22 7	1,300,233	56,532
5	67 11	48,830,140	42 8	50,262,990	25 3	1,432,850	57,314
3	69 0	49,799,795	40 11	50,589,703	28 1	789,908	28,211

This substitution of the year following a high or low price for the year coinciding with it, justifies the wisdom of the suggestion which



the foregoing table was intended to test ; for, it will be observed, that, when compared with Table IV., all the averages, with the exception of the average of five years, show an increased difference between the revenues of dear and cheap years, while the average of three years follows the rule to which the average of the same small number of years in Table IV. formed an exception. So that in the table we are now examining every average, from fourteen down to three years, exhibits an increase of revenue coincident with a fall in the price of wheat. The greatest difference is in the average of ten years, where it amounts to 2,102,179*l.*; the least difference in the average of three years, where it amounts to 789,908*l.* The greatest difference per annum per shilling of price is in the average of twelve years, where it amounts to 106,714*l.*; the least difference per shilling of price is in the average of three years, where it amounts to 28,211*l.*

Such being the result of a comparison of dear and cheap years, it may be interesting to inquire whether the converse of the proposition established in Table IV. holds good. As the groups of years of lowest price are, with one exception, the groups of years of highest revenue, are the years of highest revenue the years of lowest price? In order to answer this question, I have arranged in two columns the years in which the revenue was above and below fifty millions. It happens that of the whole series of thirty years, fifteen belong to the one class, and fifteen to the other. The following are the averages obtained:—

TABLE VI.

15 Years above 50 Millions.		15 Years below 50 Millions.		Difference.
Price of Wheat.	Ordinary Revenue.	Price of Wheat.	Ordinary Revenue.	
<i>s.</i> <i>d.</i>	£	<i>s.</i> <i>d.</i>	£	
53   4	52,033,240	57   11	47,484,515	£ 4,548,725

An average difference of upwards of four and a half millions of revenue in favour of the lower average price of wheat is the answer which this table returns to the question just proposed. What answer it receives when smaller numbers of years are grouped together will be seen in the following table.

TABLE VII.

Number of Years.	Average Ordinary Revenue.		Average Price of Wheat.	
		£	<i>s.</i> <i>d.</i>	<i>s.</i> <i>d.</i>
2	above 53 millions	53,484,782	47   3	} 52   5
6	52 and less than 53 millions	52,354,643	53   1	
6	51   „   52   „	51,495,484	53   6	
1	50   „   51   „	50,428,275	66   3	} 58   7
3	49   „   50   „	49,699,018	59   4	
1	48   „   49   „	48,591,180	48   6	
4	47   „   48   „	47,515,685	66   6	} 58   5
6	46   „   47   „	46,437,231	56   2	
1	45   „   46   „	45,893,369	39   4	

There is nothing in this table to encourage farther inquiry in this direction. The correspondence of the lowest revenue with the lowest price in the single year 1835, the moderate difference between the prices in this year and in the two years at the head of the table ( $47s. 3d. - 39s. 4d. = 7s. 11d.$ ), between which the difference in the revenue amounts to nearly eight millions, and the analogous results obtained when the nine groups are reduced to three, preclude all expectation of a result in favour of low prices being obtained by the grouping together of a smaller number of years than the fifteen years already contrasted with each other. The negative result, therefore, exhibited in this table, again throws a doubt upon the conclusion in favour of low prices as a cause of a flourishing revenue, which the figures in Tables IV., V., and VI., seemed to have established.

In searching after other modes of throwing light upon this interesting question, it naturally occurs to me to inquire, 1st, whether, in years of equal, or nearly equal, average prices of wheat, the revenue was of the same, or nearly the same, amount; and 2nd, whether, in a series of years, during which the price of wheat progressively rose or fell, the revenue fell or rose.

In answering the first of these questions, it is not necessary to resort to a formal tabular arrangement. Suffice it to observe that a single glance at Table III. will serve to show that, for prices of wheat differing only by a few pence, we have very striking variations in the revenue. Thus, in the four years 1825, 1829, 1831, and 1840, when the price of wheat ranged from  $66s. 3d.$  to  $66s. 6d.$ , the revenue ranged from 46 millions to 52 millions; while the year 1835, when the price of wheat was  $39s. 4d.$  and the revenue nearly 46 millions, holds an intermediate position between the year 1850, when the price of wheat was  $40s. 3d.$  and the revenue upwards of 52 millions, and the year 1851, when the price of wheat being  $38s. 5d.$ , the revenue was more than  $51\frac{1}{2}$  millions. These comparisons, again, are not favourable to the theory of a very close relation existing between the price of wheat and the revenue.

The second question—whether in a series of years, during which the price of wheat progressively rose or fell, the revenue fell or rose—cannot be so readily answered without having recourse to tabular arrangement.

To understand the full force of the following tabular comparisons, it is necessary to call to mind that the theoretic assertion which we are now examining, is this, that a low price of food tends to bring about a flourishing state of the revenue. If, then, this theory be well founded, the revenue ought to increase as prices fall, and decrease as prices rise. It will be seen that the table consists of eight cycles of years, four of rising and four of falling prices, three of the cycles comprising three, one four, and four five years. The range of prices in the several cycles, the amount of the revenue in the first and last years of each cycle, and the difference whether in the way of increase or decrease, are presented in distinct columns.

In order also to render the result of these comparisons more apparent, the figures which contradict the theory are characterised by an asterisk.



TABLE VIII.  
Prices Rising.

	Year.	Revenue.
<i>Four Years—1822 to 1825.</i>		
Price of wheat ranging from 43s. 3d. to 66s. 6d. ....	1822	£ 53,652,473
	1825	52,065,390
	Decrease	1,587,083
<i>Three Years—1827 to 1829.</i>		
Price of wheat ranging from 56s. 9d. to 66s. 3d. ....	1827	49,581,576
	1829	50,428,275
	Increase	846,699*
<i>Five Years—1835 to 1839.</i>		
Price of wheat ranging from 39s. 4d. to 70s. 8d. ....	1835	45,893,369
	1839	47,688,910
	Increase	1,795,541*
<i>Three Years—1845 to 1847.</i>		
Price of wheat ranging from 50s. 10d. to 69s. 9d. ....	1845	51,719,118
	1847	51,340,801
	Decrease	378,317

*Prices Falling.*

<i>Three Years—1825 to 1827.</i>		
Price of wheat ranging from 66s. 6d. to 56s. 9d. ....	1825	52,065,390
	1827	49,581,576
	Decrease	2,483,814*
<i>Five Years—1831 to 1835.</i>		
Price of wheat ranging from 66s. 4d. to 39s. 4d. ....	1831	46,293,646
	1835	45,893,369
	Decrease	400,277*
<i>Five Years—1839 to 1843.</i>		
Price of wheat ranging from 70s. 8d. to 50s. 1d. ....	1839	47,688,910
	1843	51,069,978
	Increase	3,381,068
<i>Five Years—1847 to 1851.</i>		
Price of wheat ranging from 69s. 9d. to 38s. 5d. ....	1847	51,340,801
	1851	51,669,553
	Increase	328,752

The answer which these figures give to the question before us is ambiguous; for, of the four cycles of years of rising prices, two are in accordance with, and two in opposition to, the theory of a direct and

close connection between the price of wheat and the revenue; and it is a very curious coincidence that the four cycles of years of falling prices give precisely the same contradictory results,—two for, and two against the theory. Hence it happens that, taking the cycles of rising and falling prices together, for four cycles confirming the theory there are four cycles invalidating it. So that we are again reduced to that state of uncertainty from which, in this class of inquiries, it is often so difficult to escape.

One more comparison it occurs to me, in this place, to make. In a former communication to the Society,\* I presented, in a tabular form, the history of the revenue from 1814 to 1850 inclusive: and combining the two elements of increase or decrease of revenue, and, remission or increase of taxes, I set forth in three distinct columns, the years in which the revenue was restored and a surplus realized; the years in which the revenue was partially restored; and the years in which the revenue was not only not restored, but presented a deficiency. Now, if we characterise these three classes of years as successful, partially successful, and unsuccessful, and ascertain the average prices of wheat in those classes respectively, it is probable that we may succeed in throwing additional light on the question before us. This comparison is made in the following table.

TABLE IX.

	Price of Wheat.
	s. d.
11 successful financial years .....	55 10
7 partially successful financial years .....	53 7
11 unsuccessful financial years .....	58 10

It results from this tabular comparison, that though the average price of wheat in the eleven unsuccessful financial years is higher than in the successful and partially successful years, as the theory of a close dependence of the revenue on the price of wheat would require, the price of wheat in the eleven successful financial years is higher, on an average, by more than 2s., than in the seven partially successful years—a result obviously at variance with that theory.

It will be seen that from all the foregoing calculations an element has been omitted, which must of necessity exercise a marked influence on the results. A portion of the revenue (in many years not inconsiderable) is derived from wheat and wheat-flour; and as, generally speaking, that portion is largest when the average price of wheat is high, and smallest when the average price is low, it is clear that the introduction of this element into the revenue returns must tend to modify and obscure very materially the results of all our calculations. In order, therefore, to arrive at the most satisfactory results of which this inquiry is susceptible, it will be necessary to deduct from the revenue of each year that portion which is derived from the duty on wheat and wheat-flour. This deduction is made in Table X. It presents a counterpart to Table III., on which most of the foregoing calculations have been

\* “On the Immediate Effect produced on the Revenue by the Remission or Increase of Taxes.” Table at p. 154, vol. xv.



founded. The asterisk indicates years in which the returns are limited to Great Britain.

TABLE X.

Years.	Price of Wheat.		Ordinary Revenue.	Receipts from Wheat and Wheat-Flour.	Revenue, less Duties on Wheat, &c.
	s.	d.	£	£	£
1839.....	70	8	47,688,910	670,447	47,018,463
1847.....	69	9	51,340,801	3,981	51,336,820
1825.....	66	6	52,065,390	223,399	51,841,991
1831.....	66	4	46,293,646	342,220	45,951,426
1840.....	66	4	47,351,563	896,996	46,454,567
1829.....	66	3	50,428,275	625,224	49,803,051
1838.....	64	7	47,104,745	145,246	46,959,499
1841.....	64	4	47,917,521	431,590	47,485,931
1830.....	64	3	49,889,994	537,662	49,352,332
1824.....	62	0	52,202,018	9,416*	52,192,602
1828.....	60	5	51,665,077	72,826	51,592,251
1832.....	58	8	46,833,796	263,561	46,570,235
1842.....	57	3	46,700,890	1,194,614	45,506,276
1826.....	56	11	49,625,485	177,227	49,448,258
1827.....	56	9	49,581,576	606,521	48,975,055
1837.....	55	10	46,199,190	304,638	45,894,552
1846.....	54	8	52,950,202	595,477	52,354,725
1833.....	52	11	46,170,600	21,956	46,148,644
1823.....	51	9	51,508,376	10,310*	51,498,066
1844.....	51	3	53,317,092	690,560	52,626,532
1845.....	50	10	51,719,118	96,385	51,622,733
1848.....	50	6	52,422,338	456,093	51,966,245
1843.....	50	1	51,069,978	624,775	50,445,203
1836.....	48	6	48,591,180	8,591	48,582,589
1834.....	46	2	46,425,263	17,087	46,408,176
1849.....	44	3	52,310,768	296,025	52,014,743
1822.....	43	3	53,652,473	Nil.	53,652,473
1850.....	40	3	52,177,141	261,532	51,915,609
1835.....	39	4	45,893,369	7,715	45,885,654
1851.....	38	5	51,669,553	290,437	51,379,116

The following table constructed with the aid of the materials contained in Table X., forms, in like manner, the counterpart to Table IV. It presents the revenue in the same groups of dear and cheap years, and the differences between the average results, together with the prices of wheat in the same groups.

TABLE XI.

Number of Years.	Dear Years.		Cheap Years.		Average Difference in favour of Cheap Years.
	Average Price of Wheat.	Average Ordinary Revenue.	Average Price of Wheat.	Average Ordinary Revenue.	
	s. d.	£	s. d.	£	£
15	63 5	48,629,350	47 10	50,359,671	1,730,321
12	65 0	48,879,931	46 5	50,666,428	1,786,497
10	66 1	48,839,668	45 2	50,387,254	1,547,586
7	67 2	47,052,259	42 11	49,976,909	2,924,650
5	67 11	48,520,653	41 1	50,969,519	2,448,866
3	69 0	50,065,758	39 4	49,726,793	338,965*

The influence of the correction applied to the figures of Table IV., shows itself in this table in the manner that might have been anticipated. The correction enhances the difference between the average revenue of the groups of dear and cheap years in all those instances (five out of six) in which the figures in Table IV. were in harmony with the theory now under examination, while it diminishes the amount of difference in the small group of three years which formed the exception to the rule. When we consider that even in extreme cases the portion of the revenue derived from wheat and wheat-flour forms scarcely a fortieth part of the entire ordinary revenue, and that the amount of wheat and wheat-flour imported, and of duty received, by no means corresponds with the average price of wheat, but bears only a very general relation to it, the correction introduced into Table IV. by the abstraction from the ordinary revenue of the amount of duty on wheat and wheat-flour is fully as great as might have been anticipated. Let us now see what will be the effect of this correction on the numerical results of Table V., which shows the average revenue for groups of years when the year following a given average price of wheat is substituted for the year in which that average occurs.

TABLE XII.

Number of Years.	Dear Years.		Cheap Years.		Difference in Price of Wheat.	Annual Excess of Ordinary Revenue in Cheap Years.	Annual Excess of Ordinary Revenue in Cheap Years per shilling of Price.
	Average Price of Wheat.	Average Ordinary Revenue.	Average Price of Wheat.	Average Ordinary Revenue.			
	s. d.	£	s. d.	£	s. d.	£	£
14	63 10	48,354,834	48 6	50,047,958	15 4	1,693,123	112,875
12	65 0	48,128,952	47 5	50,197,925	17 7	2,068,973	114,943
10	66 1	48,159,572	46 5	50,377,432	19 8	2,217,860	110,893
7	67 2	48,328,004	44 7	49,683,160	22 7	1,355,156	58,920
5	67 11	48,385,047	42 8	49,852,207	25 3	1,467,160	58,686
3	69 0	49,289,690	40 11	50,486,590	28 1	1,196,900	42,746



A comparison of this table with Table V. shows that here too the correction which has been applied, has the effect of bringing out, more strikingly than before, the beneficial influence on the revenue of a low price of wheat. It will be observed that in every line of the table the influence of this correction makes itself felt.

Following still the same course of examination already adopted, let us next inquire what effect the correction we are applying has upon the converse of the proposition, that a low price of wheat implies a favourable state of the revenue. The following table is a counterpart of Table VI.

TABLE XIII.

14 Years above 50 Millions.		16 Years below 50 Millions.		Difference.
Price of Wheat.	Ordinary Revenue.	Price of Wheat.	Ordinary Revenue.	
<i>s. d.</i> 52 5	£ 51,888,508	<i>s. d.</i> 58 5	£ 47,277,794	£ 4,610,714

Here, too, the influence of the correction makes itself felt, though scarcely to such an extent as to encourage the expectation of any material difference between the following table and Table VII., in each of which the price of wheat corresponding with different amounts of revenue is pursued more into detail.

TABLE XIV.

Number of Years.	Average Ordinary Revenue.		Average Price of Wheat.	
		£	<i>s. d.</i>	<i>s. d.</i>
1	Above 53 millions	53,652,473	43 3	52 7
4	52 and less than 53 millions	52,297,150	53 0	
8	51 „ 52 „	51,644,104	53 7	
1	50 „ 51 „	50,445,203	50 1	57 1
3	49 „ 50 „	49,534,547	62 6	
2	48 „ 49 „	48,778,817	52 7	
2	47 „ 48 „	47,252,197	67 6	58 4
5	46 „ 47 „	46,508,224	57 8	
4	45 „ 46 „	45,809,477	54 8	

A general tendency to low prices of wheat in years of large revenue, and of high prices of wheat in years of small revenue, is all the result to which this table conducts us. The table is too much broken up into small groups of years to yield a very marked result; but when arranged into three larger groups, we obtain the ascending scale of prices, 52*s.* 7*d.*, 57*s.* 1*d.*, and 58*s.* 4*d.*, corresponding to the falling scale of revenue, from 51-53, to 48-50, and 45-47 millions. So that here again the correction we are now employing produces a result more in accordance with the theory which ascribes to the price of wheat a marked influence on the revenue.

The next class of calculations into which it is proposed to carry

the correction now under consideration, is that relating to rising and falling prices, as displayed in Table VIII., of which the following table is a counterpart.

TABLE XV.  
*Prices Rising.*

	Year.	Revenue.
<i>Four Years—1822 to 1825.</i>		
Price of wheat ranging from 43s. 3d. to 66s. 6d. ....	1822	£ 53,652,473
	1825	51,841,991
	Decrease	1,810,482
<i>Three Years—1827 to 1829.</i>		
Price of wheat ranging from 56s. 9d. to 66s. 3d. ....	1827	48,975,055
	1829	49,803,051
	Increase	827,996*
<i>Five Years—1835 to 1839.</i>		
Price of wheat ranging from 39s. 4d. to 70s. 8d. ....	1835	45,885,654
	1839	47,018,463
	Increase	1,132,809*
<i>Three Years—1845 to 1847.</i>		
Price of wheat ranging from 50s. 10d. to 69s. 9d. ....	1845	51,622,733
	1847	51,336,820
	Decrease	285,913

*Prices Falling.*

<i>Three Years—1825 to 1827.</i>		
Price of wheat ranging from 66s. 6d. to 56s. 9d. ....	1825	51,841,991
	1827	48,975,055
	Decrease	2,866,936*
<i>Five Years—1831 to 1835.</i>		
Price of wheat ranging from 66s. 4d. to 39s. 4d. ....	1831	45,951,426
	1835	45,885,654
	Decrease	65,772*
<i>Five Years—1839 to 1843.</i>		
Price of wheat ranging from 70s. 8d. to 50s. 1d. ....	1839	47,018,463
	1843	50,445,203
	Increase	3,426,740
<i>Five Years—1847 to 1851.</i>		
Price of wheat ranging from 69s. 9d. to 38s. 5d. ....	1847	51,336,820
	1851	51,379,116
	Increase	42,296



In this case the introduction of the correction so often referred to, makes no alteration in the general result of the uncorrected table (Table VIII.) The answer afforded by both tables is uncertain, the results in conformity with the theory being counteracted by just as many results in opposition to it.

This inquiry will certainly disappoint those who think that the price of wheat has a very decided effect upon the revenue. Had such a decided effect existed, it would have certainly displayed itself in the tables contained in this communication. But it has been seen, that while some of these tables yield no response at all, others give very feeble and unsteady indications of a relation existing between the price of wheat and the revenue. Among the tables which give an uncertain response, the most striking are Tables VIII. and XV., in which four positive are neutralized by four negative results, and the increase or decrease of revenue bears no steady ratio to the fall or rise of price. Tables VI. and VII., and Tables XIII. and XIV. again, though they certainly do speak a less doubtful language, exhibit for great differences of revenue, very small differences of price, a difference of about three millions of revenue corresponding to a difference of little more than a shilling in price. (See Table XIV.) The language of Tables IV. and XI. again is more decided, as all the larger groups of years, from 15 years down to 5 years, show results in conformity with the theory that the price of wheat has a marked influence on the revenue. The only exception to the rule is in the case of the small group of three years. But it will be observed that there is no exact relation between difference of revenue and difference of price. The excess of revenue in the cheap years does not uniformly increase with the divergence of the prices of wheat. Tables V. and XII., however, are those which yield the most decisive results. They contrast the prices of wheat in groups of dear and cheap years with the revenue in the years immediately following such prices, and they show a uniform excess of revenue in all the groups of cheap years over the same number of dear years. But Table IX., which gives the prices of wheat in the three groups of successful, partially successful, and unsuccessful financial years, again suggests a doubt of the influence of the price of wheat on the revenue; for though the unsuccessful financial years correspond with the highest average price of wheat, the partially successful years are years of lower price than the wholly successful years. This leads me back to the tables with which I opened this communication, and which, as I have already intimated, gave occasion to the strongly expressed opinion of the late Mr. Porter, on the influence of the price of wheat on the revenue. A glance at Table II. will serve to show that the influence in question is too weak to overcome certain strong conflicting agencies; for though, in common with the table last referred to, the unsuccessful financial periods do certainly correspond with the highest prices of wheat, the most prosperous financial periods are not those of the lowest prices; for of four prosperous quinquennial periods, the two most prosperous correspond to the highest prices, and the two least prosperous to the lowest prices; while the least prosperous of the two prosperous decennial periods corresponds with a price of wheat exceeding by nearly 9s. the price in the most successful financial period of the same duration.

The results of this inquiry may be briefly summed up in the following propositions.

1. The influence of the price of wheat on the revenue is not such as to establish a very close and uniform relation between the one and the other; for equal prices of wheat do not coincide with equal amounts of revenue, nor equal amounts of revenue with equal prices of wheat, while cycles of years of rising and falling prices are found to correspond with diminishing and increasing amounts of revenue indifferently; and even those numerical results which seem to indicate the closest relation between the price of wheat and the revenue, display exceptions and irregularities which tend to impair the evidence they afford.

2. A comparison of groups of years of high and of low prices of wheat, issues in a result highly favourable to the theory that the price of wheat exercises a marked influence on the revenue, and this is especially the case when the years immediately following those of high or of low prices are substituted for the years coinciding with them.

3. The result of these comparisons is rendered still more striking when that portion of the revenue which is derived from wheat and wheat-flour, is subtracted from the total net ordinary revenue; and this correction has, at the same time, the effect of diminishing the amount of the irregularities just referred to.

4. When, however, the amount of the revenue in different years is subjected to the necessary correction of taxes imposed or reduced, and the years of successful or unsuccessful financial operations are compared with the price of wheat, the results are again rendered fluctuating and irregular, the injurious effect of a very high price being more apparent than the favourable effect of a very low price.

5. If we could safely assume the relation between the price of wheat and the revenue in the year following, to be the true relation, then the measure of that relation would be, in round numbers, 42,746% to 114,943% of revenue for every rise or fall of one shilling in the price of wheat. (Table XII.)

On a careful and dispassionate review of the results of the inquiry in which we have been engaged, it will appear that the relation of the price of wheat to the revenue is one of a large class of subjects with which the statesman and the physician are equally familiar. A vast variety of distinct agencies are found conducing to one result, but some one agency to which it is reasonable to attach considerable importance, struggles, so to speak, to make itself appreciated against other influences which obscure its operation either by working more powerfully in the same direction, or by directly counteracting it. Hence some of our most promising inquiries yield only negative results, and others give but a very uncertain response, and the methods of the statistic have to bear the blame which should attach to the objects of his inquiry.

In the case of this particular inquiry into the relation of the price of wheat to the revenue, it should also be borne in mind that in addition to sources of difficulty and of fallacy inherent in the complicated workings of the human frame or of the body politic, the objects of study to the physician and statesman respectively, there is this peculiar source of difficulty, that the revenue of the country, instead of being subject



to fluctuation from external causes only, is liable to the most sudden and capricious reforms and revolutions at the hands of the legislature. Thus, during the last thirty years over which this inquiry extends, scarcely a year has elapsed that the revenue has not been disturbed by the reduction and repeal of old taxes, or the increase and imposition of new ones, or by the more complicated operation of a contemporaneous increase and reduction of imposts; while the prices of wheat and of wheat-meal have been subject to disturbance by no less than seven distinct Acts of parliament.\*

This inquiry also serves to illustrate the nature of some of the fallacies which attach to statistical investigations. Take for example the numerical results displayed in Tables VIII. and XV.: if one or more of the cycles of years of rising or falling prices which correspond to an increasing or decreasing revenue had been selected to the exclusion of the remainder, the results would have seemed to justify the assertion that a low price of wheat has an injurious effect on the revenue, and conversely, if the opposite class of cycles were selected. Assuming the selection to have been made in good faith, and by mere omission, error would have honestly crept in: if by bad faith, the proverb "that anything may be proved by figures," would have received an apt illustration. But if it had happened that the comparison of the prices of wheat and the revenue in cycles of years of rising and of falling prices had presented itself to the mind of the inquirer as an all-sufficient means of determining the true relation of the price of wheat to the revenue, he would have arrived at a conclusion, which this more extensive and complete investigation certainly does not warrant, that the price of wheat has no relation whatever to the state of the national finances.

As everything which throws light upon the nature of the difficulties and fallacies which attach to statistical inquiries is interesting and instructive, I cannot resist the temptation of introducing in this place, in two extreme cases, the additional element of the exports; and I will state the facts in round numbers, so as to produce the greatest possible effect.

1. In the year 1822, the price of wheat was 43s., the revenue 53½ millions, and the exports 37 millions. During the three following years the price of wheat rose progressively till, in the year 1825, it had reached 66s., the revenue being 52 millions, and the exports 39 millions. The reduction of taxation in the same period exceeded 11 millions. So that in these four years, from 1822 to 1825 inclusive, the exports increased 2 millions, and the revenue, in spite of a reduction of taxation exceeding 11 millions, suffered only to the extent of 1½ millions, the price of wheat, at the same time, progressively rising from 43s. to 66s.

2. In the year 1835, the average price of wheat was 39s., the revenue 46 millions, and the declared value of the exports 47 millions. During the four following years the price of wheat rose progressively till, in 1839, it reached 71s., the revenue in the same year being 48 millions, and the exports 53 millions. In this interval, from 1835 to 1839, taxes were repealed to the amount of more than one million.

\* Those of 1822, 1825, 1826, 1827, 1828, 1842, and 1846.

So that in these five years, from 1835 to 1839 inclusive, the exports increased 6 millions, and the revenue, in spite of a reduction of more than a million in taxes, increased 2 millions, the price of wheat, at the same time, progressively rising from 39s. to 71s.

In bringing this communication to a close, I cannot but regret that so interesting and promising an inquiry has not yielded results more decided and more uniform; but I have the satisfaction of believing that this is due rather to the inherent difficulty of the subject itself, than to either the employment of unsound methods of investigation, or the omission of any reasonable mode of arriving at the truth.

## APPENDIX.

The following table, which gives the price of wheat and the ordinary revenue for each year from 1822 to 1851, has been constantly used in compiling the tables contained in the foregoing communication; and, as it promises to be useful for purposes other than those for which it is here employed, it has been thought desirable to append it.

*Table showing the average Price of Wheat and the Ordinary Revenue for each year, from 1822 to 1851 inclusive.*

Year.	Price of Wheat.		Ordinary Revenue.	Year.	Price of Wheat.		Ordinary Revenue.
	s.	d.	£		s.	d.	£
1822.....	43	3	53,652,473	1837.....	55	10	46,199,190
1823.....	51	9	51,508,376	1838.....	64	7	47,104,745
1824.....	62	0	52,202,018	1839.....	70	8	47,688,910
1825.....	66	6	52,065,390	1840.....	66	4	47,351,563
1826.....	56	11	49,625,485	1841.....	64	4	47,917,521
1827.....	56	9	49,581,576	1842.....	57	3	46,700,890
1828.....	60	5	51,665,077	1843.....	50	1	51,069,978
1829.....	66	3	50,428,275	1844.....	51	3	53,317,092
1830.....	64	3	49,889,994	1845.....	50	10	51,719,118
1831.....	66	4	46,293,646	1846.....	54	8	52,950,202
1832.....	58	8	46,833,796	1847.....	69	9	51,340,801
1833.....	52	11	46,170,600	1848.....	50	6	52,422,338
1834.....	46	2	46,425,263	1849.....	44	3	52,310,768
1835.....	39	4	45,893,369	1850.....	40	3	52,177,141
1836.....	48	6	48,591,180	1851.....	38	5	51,669,553



*Statistics of the Deaf and Dumb in Ireland.* By W. R. WILDE, ESQ.,  
*Assistant Census Commissioner for Ireland.*

IN accordance with the request of the local secretaries, with the permission of the Lord Lieutenant, and the concurrence of his brother-commissioner, Mr. Donnelly, the following paper, embodying some of the results of the inquiry instituted, in connection with the census, into the number and condition of the Deaf and Dumb in Ireland, was laid before section F of the British Association.

In making arrangements for taking the census of 1851, the subject of the diseases of the living occupied the attention of the commissioners, and preparations were accordingly made by which a return was procured of all the persons who laboured under disease, either at their own homes or in public institutions, upon the night of the 30th of March. It was conceived that such a return would, when properly classified, present at one view not only the amount and distribution of disease, but the maladies to which the inhabitants of this country are most exposed at a certain period of the year.

Owing to the peculiar and anomalous circumstances of this country at present—arising out of the state to which it has been reduced since the summer of 1846—it is of great importance, in a social as well as a medical point of view, to form some just estimate of the diseased, and their proportion to the healthy. Famine, pestilence, and emigration, together with a falling-off in the number of births, have lessened the population by nearly one-fourth in five years, and from the number of adults lost to the country during the period specified, over and above the ordinary mortality of such persons, and the extensive emigration which is still going forward, the amount of the diseased in either mind or body, of the decrepid, aged, and infirm, as well as the orphan and the pauper, now thrown for support upon the resources of the country, will be found to bear an undue and unnatural proportion to the healthy part of the community in Ireland, when tested by the ordinary standard of disease in north-western Europe.

No similar attempt has, I believe, been yet made to collect and tabulate the diseases presented on a single day in even a limited portion of any other country.

The general return of the diseased may be divided into the *permanent* and the *temporary*; and foremost among the former stands deaf-muteism.

Until the present inquiry, no means worthy of credit have been adopted to discover the exact number of deaf mutes in the British Isles. Computations have been made by writers, and vague conjectures published upon the statistics of deaf-dumbness; but as the mode in which these inquiries were conducted has not been explained, nor the materials at the disposal of the individuals who undertook them exposed, no certainty can be felt as to their accuracy; and moreover, it is manifest that statistical investigations for an entire kingdom can only be effectually undertaken and properly carried out by the State.

In an inquiry of this description two great objects present themselves—a physiological and a social. Under the former head the deaf

mute may be classed among those afflicted with permanent disease, either congenital or acquired, and, as such, the subject demands the careful investigation of the vital statist; and all the causes and phenomena of the affection solicit attention equally with those circumstances attendant upon lunacy, idiotcy, blindness, or any of the other persistent maladies which affect certain portions of the community in all countries. Under the latter head the deaf mute claims the special attention of the philanthropist, and the protection of the State, owing to the forlorn condition to which he is reduced by his affliction, the difficulty he experiences in expressing his wants, and his inability either to educate himself or receive instruction through the ordinary channels; and also to his constant exposure to crime, from the defect of moral training, and the difficulty of impressing upon him a just idea of right and wrong. Degraded by his uncontrolled passions, he is, moreover, frequently the victim of cruelty and injustice; and being incapable, without education, of properly understanding or duly appreciating the truths of religion, he is reduced to a condition but little elevated above that of the brute creation. Alone in the world, his faculties undeveloped, and shut out by his unhappy circumstances from thoroughly communicating his ideas to the rest of mankind, the deaf mute, in an especial manner, claims the sympathies of all. These latter considerations, however, are more the province of those whose duty it is to provide for such members of the community, as, either from their position in society or their afflictions, require the aid and interference of the State, and of all who would advance the cause of reason, religion, and humanity.

Viewed in a statistical aspect, the investigation of this species of permanent disease leads us to inquire into its extent and distribution, and, as far as possible, its causes also; its proportion to the general population, and the relative proportion of the sexes affected; the education, and susceptibility to education, both literary and industrial, of its victims; the class of the community which it chiefly affects; and the localities where it principally prevails: in order to see whether geological position, soil, aspect, elevation, humidity, dryness, salubrity or insalubrity of climate, density or paucity of population, unhealthy crowded cities, or open, fertile plains, acquired disease, hereditary predisposition, family peculiarity, or the consanguinity of parents, may have in any way conduced to its development and propagation.

Without entering into a minute explanation of the means by which this secondary census of the deaf and dumb was instituted, it will suffice to state that, from the kindly manner in which the inquiries were received by the community, and the readiness with which the information sought for was obtained, aided by the admirable organisation of the police force, the returns referring to this form of permanent disease are, in all probability, far more faithful and trustworthy than any heretofore presented for other countries.

Where any difficulty arose with respect to the true physiological or pathological condition of a case, the examination of a medical man was had recourse to; and it is highly creditable to the country practitioners of Ireland to state, that, although the opinion was requested gratuitously, it was almost invariably given in the cause of science and humanity.



True and uncomplicated muteism may be divided into two classes. The first is congenital, or that with which the patient is born; it is either functional or organic—in the latter case it usually arises from some defect of organisation, either in the mechanical apparatus of hearing, in the auditory nerve, or in the great nervous centre itself. The second class is that proceeding from disease acquired subsequent to birth, but which occurred so early in life that speech had never been fully acquired; or from the deafness being so intense, that speech was either entirely lost or greatly impaired in after life. In the latter class, the acquired disease, particularly if it occurs within the first few years of life, reduces the patient to the position of a mute equally with the former, and so places both in the same division in a social and statistical point of view; but as there are many topics of scientific interest appertaining specially to each class, they have, when necessary, been kept separate, and the calculations belonging to each are given in distinct columns in the several tables of the report. The information derived from the parents or friends, as to whether the person was born deaf and dumb, must be received with caution, as, in a great number of instances, the query is answered in the negative; the relatives and attendants being generally unwilling to admit the fact of congenital defect, and stating that they were sure the child heard well until it was twelve, fifteen, or eighteen months old, although it is not always possible, without special attention being directed to the subject, to form a decided opinion as to the amount of hearing possessed by an infant of such tender age. Upon a strict inquiry, however, it will generally be found that the premises do not warrant the conclusion that complete deafness did not exist at birth, the instances related being usually those in which the child noticed general vibration, such as that produced by a piano, &c., and not distinct sounds, like those of the human voice; and the more intelligent the class, the more likely are these opinions to prevail. All mutes are not totally devoid of hearing and, moreover, the visual power in that class being, at a very early age, called into special action, attention is often mistaken for hearing.

4,485 deaf mutes were returned for all Ireland, or 1 in every 1,461 inhabitants; but it results from calculations, into the particulars of which I do not propose to enter in this place, that the exact number of the deaf and dumb can never be estimated, from the difficulty of determining muteism under two years of age. Hence the Irish, as well as all other tables which have been constructed exhibiting the ages of the deaf and dumb, are defective, when tested by the ordinary standard of age in certain countries; and in Ireland, in particular, this disturbing cause acts with especial force just now, owing to the paucity of children under five years of age compared with the same class in 1841. Taking all the circumstances of the case into account, it is probable that the estimate for Ireland would be about 1 deaf mute in 1,500 inhabitants.

According to the most recently published tables, and the most authentic information that can be obtained, the proportion of deaf mutes to the population, in all Europe, is 1 in 1,593—a number bearing a great similarity to the Irish returns. The duchies of Luxembourg and Wurtemberg, and the kingdoms of Tuscany, Bavaria, Belgium, and Holland, possess the fewest, while Sardinia, Norway, and parts of Switzerland, exhibit the greatest number of deaf mutes in pro-

portion to their populations; the average of the former countries being 1 in 2,209, and of the latter, 1 in 641·9. In some of the Swiss cantons the proportion of the deaf and dumb to the population is as high as 1 in 206, and in those localities it is generally combined with cretinism and idiocy. In a country like Ireland, completely insulated, limited in extent, and possessing great sameness of surface, one would not expect that the proportion should alter very much in the different provinces and counties; still we find the following variations:—In Leinster, 1 in 1,794; Connaught, 1 in 1,689; Ulster, 1 in 1,487; and in Munster, 1 in 1,469. Deaf-dumbness, arising from all causes, prevails most in the rural, and least in the civic portions, or those towns whose inhabitants amount to 2,000 and upwards, exclusive of workhouses. Thus there are fewer cases in proportion to the population to be found in the towns of Drogheda, Carrickfergus, Galway, and Belfast, and the cities of Cork and Dublin, the average for these places being 1 in 2,384. Generally speaking, the flat campaign counties, such as Roscommon, Westmeath, Dublin, Meath, and Kildare, present the fewest cases; the average in these being 1 in 1,950; while Mayo, Limerick, Donegal, Waterford, and Wicklow, and also Tipperary, Tyrone, and Fermanagh, the five first lying chiefly on the seacoast, and the majority presenting mountain ranges, have a greater number of deaf and dumb, in proportion to their population, than the remaining counties, their average being 1 in 1,338, and in Wicklow the proportion is as high as 1 in 1,192. Leitrim, Clare, Down, and Antrim, are also high.

Of the total 4,485 mutes, 4,151 were deaf and dumb, 2,349 males and 1,802 females, and 334 were dumb but not deaf. Among the former class 3,325 were born so, and 400 became so after birth by accident or disease. In 267 instances the precise cause was uncertain or unknown, and in 159 cases the persons were at the same time paralytic, idiotic, or both. Among the latter class—the dumb, not deaf—131 were dumb only without other defect, 45 were paralysed, 115 idiotic, and 43 both paralytic and idiotic.

The sexes of the deaf and dumb from all causes, are as 100 males to 76·61 females; such being in accordance with the usual law which appears to regulate the sexes in this class. Among the congenital cases, the proportion is 100 males to 74·62 females; and in the acquired, it is 100 to 91·37—showing in the former an excess of males over and above the general proportion of that sex. It must, however, be remarked, that according to the present census there is an undue proportion of females above males in Ireland.

Among the sixteen tables inserted in the report, there are two which show, by ages and sexes, the occupations of the deaf mutes themselves, as well as the employment of their parents. The former, exhibited the great variety and extent of arts, trades, and handicrafts, upon which the deaf and dumb are capable of being employed, and the latter showed that the great bulk of the mutes in Ireland are derived from the agricultural and labouring classes.

Among the subjects discussed in this report is that of marriage and its results, as regards the offspring of deaf mutes. In 77 instances one parent was deaf and dumb, and in 5 instances both parents; from these marriages but two mute children resulted, one to each class. It



is remarkable that while muteism is often manifest in several members of a family derived from a common stock, the defect is seldom transmitted direct from parents to children; thus, according to the returns of the Hartford Institution, in the United States, we learn that out of ninety-one instances where both parents were deaf and dumb, there were only four cases in which the children were similarly affected.

Several tables have been constructed with a view of showing the number of mute children born to each family, and the proportion of the sexes, where there was more than one mute, the position in the family, whether first, second, or third child—in 2,962 instances—the result of hereditary predisposition, and the consanguinity of parents, as well as the causes of acquired deaf-dumbness and the ages at which the diseases or accidents producing such occurred. The state of education, and the number, locality, and date of erection of the several institutions for the instruction of the deaf and dumb in Ireland, as well as the mortality and causes of death, and even the particular races, whether Irish, English, or Scotch, to which the deaf and dumb belonged, were likewise described, all showing with what minuteness this interesting inquiry had been sifted.

The following are some of the results obtained:—2,512 families had one mute child; 287, two mutes; 127, three mutes; 32, four mutes; 8, five mutes; in 3 instances there were six; in 1 seven; and in 1, eight mute children, born of the same family of the same parents. Fourteen instances occurred of twins, in which one or both were mute; and families of six and seven had more frequently a mute child born among them than families of any other number. In every instance the male sex largely predominated, except in cases where the eighth child was deaf and dumb, and in these the sexes were about equal. In 154 instances the parents were related; and out of 281 cases in which the influence of hereditary predisposition in the production of congenital muteism was traced, it was shown that in 149 instances the taint descended through the father's side, and in 132 through the mother's. The family history had been traced back in several instances to the grandparents, and in a large number to the cousins and collateral branches.

Six cases were recorded of persons deaf, dumb, and blind, and a great number of instances were related of rare and remarkable cases, showing peculiar combinations of deaf-dumbness with other congenital or acquired defects.

As one of the chief objects in making statistical inquiries into the condition of the diseased, the destitute, or the helpless, is, that they may be either relieved of their infirmities, provided with proper institutions, or afforded the means of supplying their necessities, the subject of the education of the deaf and dumb was carefully investigated. It is unnecessary, for this purpose, to learn the ages of educated deaf mutes, but it is of great importance to know the ages of those who are still in a state of darkness, because to a large portion of these may still be offered the blessings of enlightenment, thereby not only increasing their happiness, but supplying them with an additional means of support. There were in Ireland, at the time of taking the census, 744 persons—409 males, and 335 females—either already educated, or receiving instruction in some of the establishments for that purpose.

The number of uninstructed deaf and dumb was 3,379 persons, neither idiotic, insane, nor paralytic—1,936 males, and 1,443 females—the total being in the proportion of 1 educated to 4·54 uneducated. The provincial summaries exhibit the following varieties:—In Leinster there is 1 educated in every 2·88 deaf and dumb; in Ulster, 1 in 4·07; in Munster, 1 in 6·68; and in Connaught, 1 in 6·92.

Among the counties, we find that the greatest amount of ignorance prevails in Kilkenny, Clare, Limerick, Donegal, and Fermanagh; and those in which the disproportion between the educated and uneducated was least, were the counties of Dublin, Tyrone, Westmeath, Londonderry, Meath, Antrim, Down, and Sligo. No fair deduction can, however, be drawn from these proportions, either as to the susceptibility to teaching, or the willingness to receive instruction upon the part of the mutes, or their friends, in the former counties, as the varying proportions are evidently due to circumstances appertaining to the means of acquiring instruction over which they could not exercise control. By far the greatest number of the educated resided in the cities.

The report is highly interesting as giving the history of the instruction of the deaf and dumb from the earliest period to the present time. The first educational establishment for the deaf and dumb in Great Britain, was that established by Thomas Braidwood, in 1760, and which is spoken of in terms of commendation by Dr. Johnson, in his *Tour to the Hebrides*.

To Dr. C. H. Orpen is due the credit of first drawing attention to the education of the deaf and dumb in Ireland.—By a series of public lectures delivered in Dublin in 1816 he enlisted the charitable sympathies of the benevolent, and eventually succeeded in establishing the National Association, together with the institution at Claremont, which has since that time been the great means of instructing the deaf and dumb in Ireland. 600 children have been educated there since its commencement. The next attempt was made in Cork by Dr. Kehoe in 1822, but it failed for want of funds in 1846. In 1826, the family of Archbishop Magee established the day-school of the Dorset Institution. Next in chronological succession we find the Ulster Institution for the Education of the Deaf and Dumb, and also the Blind of that province, which was commenced as a day-school, in 1831, by some benevolent individuals in Belfast. In 1836, a large building was erected, and boarder pupils admitted the following year; and in 1845 a much larger institution was built, at a cost of 10,000*l.*, contributed by public subscription.

In 1835, an attempt was made by Mr. A. Craig, of Kilrea, near Coleraine, who had himself four mute children, to establish a deaf and dumb institution; in this design he was subsequently assisted by the Mercers' Company, one of the constituent parts of the Irish Society. It was, however, relinquished in 1835. Ten children were educated thereat.

In December, 1842, Miss Wright, a benevolent lady, residing at Moneymore, established and has since supported, at her own expense, an institution for the education of poor mute children. The pupils therein are taught to carve in wood, and also learn crochet-work and other industrial arts.

In 1846, the clergy of the diocese of Derry and Raphoe subscribed



a sum of money, by which, with means previously collected by a lady in the vicinity, the Strabane Institution was established both as a day and boarding school.

In the same year the late William Nugent Skelley, Esq., the Very Rev. Dr. Yore, and the Rev. Mr. M'Namara, commenced the institutions of St. Mary, at Cabra, and Saint Joseph, at Prospect, in the vicinity of Dublin. The former, for females, was opened for the admission of pupils in 1847, and the latter, for males, in 1849. Preparatory to the reception of pupils into Saint Mary's Institution, which is under the direction of the sisters of the religious order of Saint Dominick, two of the ladies belonging to that establishment, together with two mute female children, were sent to the institution for deaf mutes of Le Bon Sauveur, at Caen in Normandy, in order to learn the mode of instruction taught at that celebrated establishment. The single-handed sign-alphabet, similar to that generally used on the Continent and in America, is the one taught in both these institutions. In almost all the other schools in Ireland the double-handed alphabet is employed. The Irish schools in general do not attempt to teach the pupils to articulate words.

From 1816 to 1849, a period of thirty-three years, seven schools, capable of containing 515 pupils, independent of those already alluded to at Cork and Kilrea, have been established, chiefly through the instrumentality of private individuals, and are altogether maintained by voluntary contributions. This is, we believe, a greater number than has been erected in any other portion of the United Kingdom, of equal extent and population, during a similar period. The entire number educated, or now in course of education, is 1,081. The period of instruction has been, on an average, five years; and the school age, or that during which the pupils are most susceptible of tuition, is from six to fifteen years. It is of great importance to fix this period, as it is generally acknowledged by the most experienced instructors of the deaf and dumb that, after a certain age, the generality of pupils are not susceptible of instruction.

In concluding the subject of the education of the deaf and dumb, the commissioners have suggested the propriety of ingrafting upon the system of National Education some institutions for the instruction of this class of the community.

The popular terms for deaf-dumbness are,—deaf and dumb—dummy—the silent people—mutes; and in the Irish, *Bodhar agus Balbh*—deaf and dumb. Some interesting instances of persons so circumstanced have been related in the Irish metrical romances and bardic histories. The Irish medical manuscripts of the sixteenth and eighteenth centuries abound with notices of diseases of the ear and deafness.

The subject of race, in so far as it affects the deaf and dumb, is another subject of great interest. It appears that out of 1,671 so afflicted, 1,198 were Irish, 352 English, and 121 Scotch. The last subject which falls to be considered is the mortality of the deaf and dumb. In 291 instances the cause of death was recorded, and we learn that 72 persons died of zymotic or epidemic diseases, of which fever, dysentery, and small-pox, were the most fatal; and 135 died of sporadic diseases. Consumption was the cause of death in 77 instances; it is not only the most frequent cause of death in this class, showing a proportion of 1 to

2·81 of the entire number of specified causes ; but the fact thus related confirms the opinion, that as deaf-muteism itself is frequently a variety of struma, so are the persons afflicted therewith more particularly predisposed to diseases of a scrofulous character in after life. 10 met with violent or sudden deaths : rather a large proportion, but one naturally resulting from the deprivation under which this afflicted class all suffer.

231 deaf mutes were resident in the workhouses of the various unions in Ireland, in March, 1851. 33 of these were educated—9 were under five years of age ; and 158 were from 15 to 40 and upwards, and consequently too far advanced in life to be instructed. Of the remainder 64 persons—40 males, and 24 females—were of the school age, or from 4 to 15, between which age a State provision is made for their education ; for according to the Poor Law Act, 6 and 7 Vict., cap. 92, s. 14, it is enacted—“That the guardians of any union may send any destitute person, deaf and dumb, or blind child, under the age of 18, to any institution for the maintenance of the deaf and dumb or blind, which may be approved of by the commissioners, with the consent of the parents or guardians of such child, and may pay the expense of its maintenance there out of the rates raised under the authority of the said first-recited Act.” As mute children, permitted to grow up in ignorance and poverty, must remain a permanent tax upon their respective unions, and as they cannot be properly instructed except in schools specially constituted for the purpose, we think it might be found an eventual economy to have them sent to some of the existing seminaries, that they may receive both a literary and industrial education.

Although the figures given in the foregoing paper are close approximations to the truth, nevertheless until the “Report upon the Status of Disease” (which will form Part III. of the general Census of Ireland for 1851) is ready for presentation to Parliament, some slight alterations may perhaps occur.

Having received from Dr. Peet, the superintendent of the institution for the deaf and dumb at New York, a letter containing the unpublished results of the American inquiry into the state of the deaf and dumb, in common with the blind, insane, and idiotic, on the authority of I. C. Kennedy, Esq., superintendent of the census, I have added it to this communication.

From it we learn that there were 9,422 *white* mutes in a population of 19,371,591 persons in the United States, according to the census of 1850, or 1 in 2,073 ; and but 96 of the same class among a *free coloured* population of 251,205, or 1 in 2,953. The number of blind among the former class amounts to 7,897. A comparison of the numbers of deaf and dumb, blind, insane, and idiotic, in the whole Union, with the population of the same colour and condition, gives the following proportions :—



	Deaf and Dumb.	Blind.	Insane.	Idiotic.
Whites .....	1 in 2,073	1 in 2,455	1 in 1,295	1 in 1,384
Free Coloured .....	1 ,, 2,956	1 ,, 867	1 ,, 1,355	1 ,, 983
Slaves .....	1 ,, 6,552	1 ,, 2,646	1 ,, 11,011	1 ,, 3,081
Total Slaves and Free Coloured....	1 ,, 5,730	1 ,, 2,131	1 ,, 5,936	1 ,, 2,461

It will be perceived from this that blindness is more prevalent, and deafness and insanity less frequent, among the coloured races than among the white. The proportion of insane among the slaves is remarkably small. Perhaps the returns of the idiotic among the slaves are defective, as their large proportion among the free coloured seems to show that idiocy is more common among the coloured races than among the whites. In a large body of slaves, those only partially idiotic, or deaf and dumb, might be forgotten or overlooked by the master or overseer (who filled the schedule), being, in many cases, still useful hands, while the blind and insane would be more likely to be remembered.

It appears that the deaf and dumb and the blind are most numerous in those States from which the emigration is greatest (the Central and New England), and least in those States whose population receive accessions from immigration—showing that comparatively few of these two classes of persons are carried along with the stream of emigration. In California, Utah, and Oregon (omitted in the foregoing calculations on account of their recent settlement and peculiar circumstances), where the population consists almost wholly of recent immigrants, there are only 6 deaf and dumb, and 2 blind, in an aggregate population of 184,370. New Mexico is also omitted in these calculations, its population being of a peculiar character, chiefly a mixture of Spanish and native Indian races, with but few Anglo-Americans.

*On the Progress, Extent, and Value of Steamboat Building and Marine Engine Making on the Clyde.* By JOHN STRANG, LL.D.

[Read before the Statistical Section of the British Association, at Belfast, 7th September, 1852.]

OF the many sources of progress and prosperity which have characterised Scotland, and particularly its western districts, during the last fifty years, there is, perhaps, none more conspicuous than the business connected with the construction of steam vessels and marine engines. This industrial interest, unlike that of the manufacture of cotton, of silk, or of wool, deals chiefly with articles of home produce, and exerts its labour and intelligence on materials which, in their primary condition, are the products of our own soil, and manipulated by our own workmen. It is a species of manufacture, too, which necessarily requires greater skill,

and, consequently, higher remuneration, than are requisite for the more common manufactures of the country, and hence it has proved a source of great wealth to some, and of comparative comfort to all connected with it; while, at the same time, it has created for the districts wherein this branch of industry is located, a constant and remunerating employment for the more active, industrious, and intelligent class of the inhabitants.

The construction of steam vessels is, in comparison to other manufactures, a business of yesterday. It is at this moment just forty years since the tiny "Comet," the first *passenger steamboat* which ever sailed in Europe, made its trial trip from Glasgow to Greenock, amid the hopes of its sanguine projector, and the sneers of many a self-interested and sceptical *skipper*. It was a boat of only thirty tons burthen, and boasted an engine of three-horse power. Small, however, though the attempt was, it was enough to prove that the idea was a practical one, and a few years had not passed over before the steamboat became as much a necessity as any other human invention. Although the history of the steamboat is one of the most modern of our social discoveries, it is marked by many striking eras. In form, it was first limited to a wooden hull, a single engine and paddle-wheels; it now boasts hulls of iron, double engines, and screw propellers. In speed, it was, in the beginning, scarcely equal to that of the old lumbering stage-coach; at present it reaches fifteen to sixteen miles an hour, and with a regularity almost equal to a railway. At its outset, its operations were limited to the navigation of rivers and inland lakes; in a few years it cautiously extended itself along the coast, and for a considerable period it has successfully braved the ocean.

To whatever individual the honour may be justly assigned of having given the first idea of applying the steam engine to the propelling of boats or vessels, it cannot be denied that the first successful effort to render this idea practically available was made by Henry Bell, on the river Clyde; and it is satisfactory to think that the district in which the first successful essay was made has continued to be the great seat of the manufacture of marine engines and steam vessels. For the purpose of illustrating the progress, the extent, and the value of this most important branch of Scottish industry, let me attempt to place before you the result of the investigations which I have lately made in relation to this matter. And first, let us shortly advert to

#### *The Progress of Steamboat Building and Sailing on the Clyde.*

As I have already stated, it is just forty years since the first steamboat was built on the Clyde, and up to the present period all the steamers employed in the navigation of the river, its firth and estuaries, have been constructed either at Glasgow, Greenock, Port-Glasgow, or Dumbarton. Although for some years these river steamers were both limited in number and small in size, I find that in 1831 the number of steam vessels then regularly sailing from the Clyde amounted to 55, with an aggregate tonnage register measure of 4,905, while in 1835 the vessels had increased to 67, and the tonnage to 6,691. Since that period the steamboat traffic from Glasgow has nearly doubled, as the following figures will best illustrate:—



Number and Register Tonnage of Steamers engaged in Traffic on the River Clyde during the Year ending June, 1852.

	Number.	Tonnage.	Total.
Trading Steamers .....	39	8,643	8,682
Passenger do. ....	31	2,522	2,553
Tug do. ....	23	827	850
	93	11,992	12,085

From the foregoing table it appears that, in the course of seventeen years, the number of regularly employed steamboats has increased from 67 to 93, and the tonnage from 6,691 to 11,992. While this, no doubt, exhibits a great and growing progress of the steamboat traffic between Glasgow and the various places with which it thereby communicates, it gives no idea whatever of the extent and magnitude to which steamboat building and marine engine making have reached during these few years past. Previous to the last ten years, in fact, these branches of industry on the Clyde and elsewhere may be said to have been in their infancy, but no sooner was the problem of ocean steam-navigation solved, than a stimulus was given to the construction of steam vessels altogether extraordinary. The following tables, which have been constructed from returns made to me by the various ship-builders and engineers in Glasgow, Dumbarton, Greenock, and Port-Glasgow, will best illustrate the

Extent of Steamboat Building and Marine Engine Making on the Clyde.

TABLE I.—Number of Steam-Vessels and Power of Marine Engines built or made at Glasgow and Neighbourhood from 1846 to 1852.

Years.	Number of Vessels.						Tonnage.			Engines' Horse Power.			
	Wood.	Iron.	Total.	Paddle	Screw.	Total.	Wood.	Iron.	Total.	Wood Hull.	Iron Hull.	Total.	Vessels not built on the Clyde.
1846..	...	11	11	11	...	11	...	5,717	5,717	...	2,490	2,490	300
1847...	...	11	11	11	...	11	...	6,152	6,152	...	2,650	2,650	...
1848...	...	13	13	10	3	13	...	4,464	4,464	2,810	2,081	4,891	580
1849...	...	16	16	13	3	16	...	9,799	9,799	...	2,756	2,756	120
1850...	...	16	16	9	7	16	...	7,255	7,255	1,660	2,237	3,897	180
1851...	...	20	20	11	9	20	...	14,321	14,321	...	4,299	4,299	140
1852...	1	35	36	15	21	36	200	22,733	22,933	2,140	6,026	8,166	3,400
Totals	1	122	123	80	43	123	200	70,441	70,641	6,610	22,539	29,149	4,720

From the foregoing table it appears that, during the last seven years, there have been constructed, or are now constructing, at Glasgow and its neighbourhood, 123 vessels, of which 1 was of wood, 122 of iron, 80 paddle and 43 screw; consisting of 200 wooden tonnage, 70,441 iron tonnage, 6,610 horse-power engines for wooden hulls, 22,539 horse-power engines for iron hulls, and 4,720 horse-power engines for vessels not built in the Clyde.

TABLE II.—*Number of Steam-Vessels and Power of Marine Engines built or made at Dumbarton from 1846 to 1852.\**

Years.	Number of Vessels.						Tonnage.			Engines' Horse Power.			
	Wood.	Iron.	Total.	Paddle	Screw.	Total.	Wood.	Iron.	Total.	Wood Hull.	Iron Hull.	Total.	Vessels not built on the Clyde.
1846...	...	5	5	2	3	5	...	1,080	1,080	...	...	...	...
1847...	...	7	7	2	5	7	...	1,439	1,439	...	...	...	...
1848...	...	5	5	2	3	5	...	650	650	...	...	...	...
1849...	...	4	4	2	2	4	...	1,264	1,264	...	...	...	...
1850...	...	8	8	2	6	8	...	3,136	3,136	...	400	400	...
1851...	...	9	9	5	4	9	...	3,908	3,908	...	610	610	...
1852...	...	20	20	5	15	20	...	18,284	18,284	...	2,605	2,605	200
Totals	...	58	58	20	38	58	...	29,761	29,761	...	3,615	3,615	200

From the preceding table it appears that, during the last seven years, there have been constructed, or are now constructing, in Dumbarton, 58 vessels all of iron, 20 being for paddles and 38 for screws, and having a tonnage of 29,761; and that during the last three years 3,615 horse-power engines have been made there for iron hulls, and 200 horse-power engines for vessels not built on the Clyde.

TABLE III.—*Number of Steam-Vessels and Power of Marine Engines built or made at Greenock and Port-Glasgow from 1846 to 1852.†*

Years.	Number of Vessels.						Tonnage.			Engines' Horse Power.			
	Wood.	Iron.	Total.	Paddle	Screw.	Total.	Wood.	Iron.	Total.	Wood Hull.	Iron Hull.	Total.	Vessels not built on the Clyde.
1846...	...	1	1	1	...	1	...	328	328	...	...	...	...
1847...	3	5	8	8	...	8	5,485	3,923	9,408	...	1,120	1,120	410
1848...	2	14	16	11	5	16	2,117	5,178	7,295	...	640	640	354
1849...	1	2	3	2	1	3	285	450	735	...	150	150	260
1850...	3	5	8	3	5	8	4,813	3,400	8,213	65	845	910	440
1851...	1	12	13	6	7	13	2,402	7,093	9,495	...	1,260	1,260	800
1852...	3	14	17	10	7	17	3,029	8,699	11,728	64	1,424	1,488	2,250
Totals	13	53	66	41	25	66	18,131	29,071	47,202	129	5,439	5,568	4,514

\* Previous to 1850, there were no marine engines made in Dumbarton. The engines for the vessels built there being furnished by the engineers of Glasgow or Greenock. Now that the making of machinery has fairly been started, there will be a considerable increase to the workmen employed.

† Since the returns were received, and the tables prepared, a large addition has been made to the steamboats and marine engines in progress of construction, particularly at Greenock and Port-Glasgow, and consequently affording wages to an additional number of workmen. This branch of industry is, in fact, making every day greater and greater strides.



From the foregoing table it appears that, during the last seven years, there have been constructed, or are now in progress of construction, at Greenock or Port-Glasgow, 66 steam vessels, of which 13 were of wood and 53 of iron, 41 paddles and 25 screws; consisting of 18,131 wood tonnage, and 29,071 iron tonnage, 129 horse-power engines for wooden hulls, 5,439 horse-power engines for iron hulls, and 4,514 horse-power engines for vessels not built on the Clyde.

TABLE IV.—*Number of Steam-Vessels and Power of Marine Engines built or made at all the Ports on the Clyde from 1846 to 1852.*

Years.	Number of Vessels.						Tonnage.			Engines' Horse Power.			
	Wood.	Iron.	Total.	Paddle	Screw.	Total.	Wood.	Iron.	Total.	Wood Hull.	Iron Hull.	Total.	Vessels not built on the Clyde.
1846...	...	17	17	14	3	17	...	7,125	7,125	...	2,490	2,490	300
1847...	3	23	26	21	5	26	5,485	11,514	16,999	...	3,770	3,770	410
1848...	2	32	34	23	11	34	2,117	10,292	12,409	2,810	2,721	5,531	934
1849...	1	22	23	17	6	23	285	11,513	11,798	...	2,906	2,906	380
1850...	3	29	32	14	18	32	4,813	13,791	18,604	1,725	3,482	5,207	620
1851...	1	41	42	22	20	42	2,402	25,322	27,724	...	6,169	6,169	940
1852...	4	69	73	30	43	73	3,229	49,716	52,945	2,204	10,055	12,259	5,850
Totals	14	233	247	141	106	247	18,331	129,273	147,604	6,739	31,593	38,332	9,434

On examining the foregoing table it will be found that, during the last seven years, the steam vessels built and the marine engines made, including those at present constructing, have been as follows:— Number of steam vessels built— wood hulls, 14; iron hulls, 233; in all, 247; of these 141 were paddles and 106 screws. The tonnage of the wooden steamers amounts to 18,331, of the iron to 129,273. The engines' horse-power in wood hulls was 6,739, the engines' horse-power in iron hulls was 31,593; while there was of engines' horse-power, constructed for vessels not built on the Clyde, 9,434; making a grand total of 247 steamers, amounting to 147,604 tons, and of engines 47,766 horses' power.

From these tables also may be gathered the fact, that wooden hulls for steamers are giving place to those of iron, and that the screw is more patronized than the paddle. Of the whole vessels constructed during 1852, or in progress of construction, at the various building-yards on the Clyde, amounting to 73, only 4 were of wood, while the proportion of screws to paddles is as 43 to 30.

Before leaving the present extent of the branch of industry under consideration, it may, perhaps, be as well to state that, in addition to the steamboats and marine engines constructed on the Clyde, there has been, and is at present, a large business carried on in steam dredgers and iron punts, not only for maintaining and extending the Clyde navigation itself, but also for improving other rivers and harbours. On the Clyde alone there are at present, in daily use, 5 dredging machines, 4 of these having one row of buckets, and the other two; the average

horse-power of the 4 is 20 each, and the average draught of water 4 feet 2 inches, capable of dredging to a depth of 18 feet, the cost being about 4,000*l.* each. The draught of the double bucket machine is 5 feet 1 inch, and can dredge to the depth of 22 feet; its cost was 8,000*l.* At this moment one engineering house in Glasgow is engaged in constructing a dredging machine of 20 horse-power for Riga, and another of similar power for Copenhagen. The advantages arising from the use of such machines may at once be appreciated when it is mentioned that in 1824, when the first steam dredger was set at work in the Clyde, the average depth of water at ordinary tides was scarcely 10 feet; whereas at present the average depth is above 17 feet.

Having now given some idea of the extent of steamboat building, &c., on the Clyde, let me next attempt to arrive at some probable idea of its value and importance as a branch of the business and industry of the district in which it is located. This, however, is a more difficult task than it would appear at first sight to be, arising from the great variety of circumstances which affect the price of different sizes and kinds of steamers, and particularly from the great difference occurring in what may be designated their general and cabin furnishings. As a proof of this I may mention that, of the 14 ocean steamers for the British and American Royal Mail Service, which were all built and fitted out in the Clyde, and which commenced at a cost for each ship of about 50,000*l.*, the last, from increased size and power, reaches upwards of 110,000*l.*, an increase of price far greater than the increase of power and tonnage. From all I can gather from those best conversant with the subject, I am inclined to assume, as an approximation to the truth, the following prices:—

Wooden hulls of all sizes, irrespective of the cost of engines, boilers, and machinery, and exclusive of all furnishings, 14*l.* per ton; iron hulls as above, 12*l.* per ton. The general and cabin furnishings, as I have already stated, are so various, according to the employment intended for, and style of finish, that no price per ton can be named as a general rule. It may be said to range from 6*l.* to even as high as 15*l.*, but I shall assume the average of all kinds to be 8*l.*\*

\* I have been furnished with the cost in detail of a vessel of 604 tons, and of 320 horse-power engine:—

Building hull .....	£7,852	
Joiner's and Smith's account.....	1,953	
Upholstery .....	754	
Plumbers .....	318	
Painter and Cabinet-maker .....	273	
Sails, ropes, and rigging .....	354	
Copper .....	363	
Carving and gilding .....	907	
Other accounts .....	563	
	<hr/>	13,337
320 horse-power engine at 42 <i>l.</i> .....		13,440
		<hr/>
Silver plate, crystal, crockery, bed and table linen, and } .....		26,777
Steward's department.....		2,233
		<hr/>
		£29,000

The above shows that while the hull cost 13*l.* per ton, the furnishings cost 9*l.* per ton, and the plate, &c., 3*l.* per ton.



The cost of engines also varies greatly according to size, description of engine, and style of finish. Contracts will be taken at from 25*l.* to 50*l.* per horse-power. I shall assume 35*l.* as a fair average. Proceeding, then, upon this hypothesis, the value for the whole seven years will be as follows :—

Wooden hulls, tonnage	18,331	at £14	.....	£256,634
Iron do. do.	129,273	„ 12	.....	1,551,276
General furnishings, &c.	197,604	„ 8	.....	1,180,832
Marine engines	47,766	„ 35	.....	1,661,810
				<hr/>
				£4,650,552

Showing an annual average of £664,364.

If, however, we take only the two last years' completed work, and include in it what is now constructing, the annual average for these two years will be 1,253,636*l.*

While this certainly looks a large sum, it by no means fully exhibits the value of this branch of industry, for the above sum only represents new vessels and new machinery, and has no reference whatever either to the enlargement of vessels or to the ordinary and extraordinary repairs made on the old.

To show that the amount of steamboat repairs in the Clyde must be very considerable, I may state that, in the course of five years, one steam-ship which originally cost 29,000*l.*, paid 12,500*l.* for repairs, or upwards of 10 per cent. yearly of its value; and that another steam-ship during seven years, originally costing 37,000*l.*, paid 12,700*l.* for repairs. Of these repairs the carpenter got 9,526*l.*, the engineer 12,405*l.*, and sundry other parties 3,269*l.*

If, from the want of data, we only approximate the value of this industry, we can at least state the number of persons employed in the various building-yards and engine-shops connected with the construction and repair of steam-vessels on the Clyde. At present the number employed is as follows :—

Glasgow, &c.	6,210
Greenock and Port Glasgow	3,250
Dumbarton	1,360
<hr/>	
In all	10,820

Here, then, we have the fact that this branch of industry gives work and support to no less than 10,820 individuals; and when we consider the high wages given to many of the engineers, and the respectable rate of remuneration paid to even the lowest persons engaged in this business, it is perhaps not too much to assume that the average of the wages paid to all classes of men and boys will amount to at least 16*s.* per week, and, consequently, the trade circulates 8,656*l.* weekly, or 450,112*l.* annually, of wages.

Although these figures show an amount of labour and wages assuredly large, still they do not at all exhibit the whole of the labour and wages employed in the trade. In addition to the workmen enumerated as employed immediately by the ship-builders and engineers themselves, there are a vast number of others employed in the supplementary part of the business. For instance, it may be stated

that, with the exception perhaps of Mr. Robert Napier, almost all the other engineers in Glasgow and Dumbarton are dependent on other parties for castings of brass and iron, and especially for what are called heavy forgings; while all employ a large class of joiners, painters, carvers, gilders, upholsterers, sail-makers, &c., for finishing and decorating their vessels. Taking all into consideration, it is quite plain that this trade, although so new, is already one of the greatest importance to Scotland and the country at large, and from the rapid strides it is now making, it is destined to be one of the great sources of employment and wages in the west of Scotland.\*

Before closing this rather imperfect paper, perhaps I may be pardoned for stating that, amidst all the substantial benefits which are accruing to the country in general, and to the Clyde in particular, from the establishment of the great and industrial art whose rise, progress, and value we have just been considering, it is, at the same time, satisfactory to reflect that, in the progressive advancement of the steamboat may be seen far more important results than any of a merely economical or pecuniary nature. With the progress of steam navigation is, in fact, linked the progress of humanity in all that is useful, intellectual, and moral. By the power of this agent many of the prejudices, superstitions, and false opinions of the previously isolated families of the world have already been partially removed; and in its still further improvement and extension, we may safely calculate on increased blessings for the whole human race. Would it be too much to hope that, through the influence of this agent, we have one of the best and mightiest missionaries of intelligence, civilisation, and peace?

\* The wages paid to these, say 3,500 to 4,000 persons, engaged in the supplementary part of the steamboat making and furnishing, may be fairly assumed to be little less than 4,000*l.* weekly, which, when added to the sum stated above, will show that the wages connected with this branch of industry will probably amount to from 12,000*l.* to 13,000*l.* per week. And when it is recollected that the whole cotton, woollen, flax, and silk factories of Lanarkshire, having 918,395 spindles and 18,811 power-looms, only employed, in 1850, 24,885 persons—of whom only 5,759 were males—we shall have a better idea of the importance of this great branch of industry to Glasgow and the other ports of the Clyde.

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## MISCELLANEOUS.

## RAILWAY ACCIDENTS.

Parliamentary Return, May, 1852.

No. 335.

*A Return of the Number of Accidents on all the Railways in Great Britain and Ireland, from the 1st of July to the 31st of December, 1851, and the Number of Passengers conveyed during that period.*

	Killed.				Injured.			
	Passen- gers.	Servants of Com- panies, &c.	Tres- passers.	Total.	Passen- gers.	Servants of Com- panies, &c.	Tres- passers.	Total.
From causes beyond their own control....	8	30	....	38	213	17	....	230
Owing to their own misconduct, or want of caution.....	9	32	....	41	14	11	....	25
By crossing or walk- ing on the railway....	....	....	33	33	....	....	9	9
Suicide.....	....	....	1	1	....	....	....	....
Total .....	17	62	34	113	227	28	9	264

The number of Passengers conveyed during the half-year amounted to 47,509,392  
 Consequently one *Passenger* was *Killed* in ..... 2,796,000  
                   one            *Injured* in ..... 209,000

The length of railway open on the 30th of June, 1851..... 6,698 miles  
                   "                    31st of December, 1851.... 6,890   "  
                   Increase during the half-year..... 192   "

## THE MARRIAGES, BIRTHS, AND DEATHS,

REGISTERED IN THE DIVISIONS, COUNTIES, AND DISTRICTS OF ENGLAND.

*The Marriages for the Quarter ended the 30th June, 1852, and the Births and Deaths for the Quarter ended the 30th September, 1852,*

AS PUBLISHED BY AUTHORITY OF THE REGISTRAR-GENERAL.

THIS return comprises the births and deaths registered by 2,190 registrars in all the districts of England during the Summer quarter ended September 30th, 1852; and the marriages in more than 12,000 churches or chapels, about 3,228 registered places of worship unconnected with the Established Church, and 624 superintendent registrars' offices, in the quarter that ended June 30th, 1852.

The return of marriages is not complete; but the defects are inconsiderable, and approximative numbers have been supplied from the records of previous years.

The marriages, births, and deaths in the return exceed the average; so that the result is mixed; indicating great activity in all the sources of employment, but no general diminution of the causes of mortality.

MARRIAGES.—80,014 persons were married in the quarter ended June 30th,

1852; and thus 40,007 new families were established, or 5,286 more than were established in the corresponding quarter of 1848. The proportion of persons married to the population was 1,766; of marriages 883 in 100,000; while the average numbers are respectively 1,656 and 828. The increase in the marriages appears to be general; but it is the greatest in London, where the marriages in the quarter were 6,713, or 1,304 more than the marriages in the corresponding quarter of 1848. In Hampshire, Devonshire, Somersetshire, Cheshire, Lancashire, Durham, Cumberland, and South Wales, and generally in the ports from which emigrants sail, an unusual number of marriages was celebrated.

**BIRTHS.**—151,193 births were registered in the quarter ended September 30th, 1852. The number slightly exceeds the high number registered in the corresponding quarter of 1851, and is greater by 31,371 than the number registered in 1840, when it is believed the registration was more imperfect than it is now. Within the last twelve months 621,260 children have been enrolled on the national registers. The rate of births in England is influenced by the seasons; it is higher in the first than it is in the last two quarters of the year, in the proportion of 34 to 31. Thus, taking one year with another, the annual rate of births per cent. in the spring quarter is 3·411, in the summer quarter 3·147; the rates in 1852 were 3·516 and 3·294.

**INCREASE OF POPULATION.**—As 151,193 births and 100,497 deaths have been registered in the quarter, the natural increase is 50,696, which is at the rate of 3,899 weekly, and 557 daily. The natural increase is less than it has hitherto usually been, not through any diminution in the number of births, but by the increase of deaths from epidemic causes.

*Marriages, Births, and Deaths, returned in the Years 1840-52 and in the Quarters of those Years.*

YEARS.....	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849	1850*	1851	1852
Marriages .....	122665	122496	118825	123818	132249	143743	145664	135845	138230	141883	152738	153740	...
Births .....	502303	512158	517739	527325	540763	543521	572625	539965	563059	578159	593422	616251	...
Deaths .....	359687	343847	349519	346445	356933	349366	390315	423304	399833	440853	368986	395933	...
MARRIAGES.													
Quarters ended the last day of													
March .....	26395	24447	25860	25285	26887	29551	31417	27480	28398	28429	30567	32619	32933
June .....	30786	32551	30048	31113	34268	35300	37111	35197	34721	35844	39204	38498	40007
September .....	29221	29397	27288	28847	31675	35003	35070	32439	32995	33874	37636	37155	...
December .....	36263	36101	35629	38573	39919	43889	42066	40729	42116	43736	45331	45468	...
BIRTHS.													
March .....	132305	133720	135615	136837	143578	143080	145108	146453	139736	153772	144551	157374	161776
June .....	129059	129884	134096	131279	136941	136853	149450	159072	149760	153693	155865	159138	159136
September .....	119822	123868	123296	128161	130078	132369	138718	127173	140359	135223	146911	150584	151193
December .....	121117	124686	124732	131048	130166	131219	139349	127267	133204	135471	146095	149155	...
DEATHS.													
March .....	98896	99069	96314	94926	101024	104664	89484	119672	120032	105871	98418	105446	106682
June .....	90339	86134	86538	87234	85337	89149	90231	106718	99727	102153	92875	99639	100813
September .....	80822	75440	82339	76792	79708	74872	101663	93435	87638	135235	85846	91600	100497
December .....	89630	83204	84328	87493	90864	80681	108937	103479	92436	97594	91847	99248	...

\* The numbers up to 1850 have appeared in the Annual Reports.

**EMIGRATION.**—Emigration has proceeded with increased activity. The emigration from the United Kingdom went on through the summer at a rate which, if it continue the same, will sensibly reduce the population. 109,236 persons left the ports at which there are Government emigration officers; 62,579 sailed for the United States, 7,116 for British North America, 38,601 for the Australian Colonies, and 940 for other places. 8,335 emigrants sailed from Irish, 5,976 from Scotch ports. 94,925 sailed from English ports, namely, 70,012 from Liverpool,



3,125 from Plymouth, and 21,788 from London. The destination of 14,956 of the emigrants from London was Australia. It is well known that a large proportion of the emigrants that sail from the port of Liverpool are of Irish birth.\*

PRICE OF FOOD.—It will be observed in the table below that the average price of wheat has been 41s. 2d., and that butcher's meat has been slightly dearer than it was.

*The Average Prices of Consols, Wheat, Meat, and Potatoes, also the Average Quantity of Wheat sold and imported Weekly, in each of the five Quarters ended September 30th, 1852.*

Quarters ended	Average Price of Consols.	Average Price of Wheat per Quarter in England and Wales.	Wheat sold in the 290 Cities and Towns in England and Wales making Returns.	Wheat and Wheat Flour entered for Home Consumption at Chief Ports of Great Britain.	Average Prices of Meat per lb. at Leadenhall and Newgate Markets (by the Carcase).		Potatoes (York Regents) per Ton at Waterside Market, Southwark.
			Average Number of Quarters Weekly.		Beef.	Mutton.	
1851 Sept. 30.	96½	40s. 7d.	74,714	91,040	3d.—5d. Mean 4d.	3¾d.—5¾d. Mean 4¾d.	90s.—110s. Mean 100s.
Dec. 31.	97⅞	36s. 7d.	109,506	47,986	3d.—5d. Mean 4d.	3¾d.—5¾d. Mean 4¾d.	65s.—75s. Mean 70s.
1852 Mar. 31.	97¼	40s. 10d.	95,532	27,540	3¼d.—5d. Mean 4⅛d.	3¾d.—5¾d. Mean 4¾d.	60s.—80s. Mean 70s.
June 30.	99⅞	40s. 10d.	87,949	54,675	3¼d.—4¾d. Mean 4d.	3¾d.—5¼d. Mean 4½d.	85s.—110s. Mean 97s. 6d.
Sept. 30.	100	41s. 2d.	78,712	67,912	3¼d.—5d. Mean 4⅛d.	4d.—6d. Mean 5d.	80s.—100s. Mean 90s.

*Note.*—The total number of quarters of wheat sold in England and Wales for the 13 weeks ended September 30th, 1851, was 971,276; for the 13 weeks ended December 31st, 1,423,582; for the 13 weeks ended March 31st, 1852, 1,241,921; for the 13 weeks ended June 30th, 1,143,339; for the 13 weeks ended September 30th, 1,023,251. The total number of quarters entered for Home Consumption was, respectively, 1,183,523; 671,803; 358,024; 710,780; and 882,850; the second total, however, embraces the returns of 14 weeks.

STATE OF THE PUBLIC HEALTH.—100,497 deaths were registered in the quarter ended September 30th. This number greatly exceeds the number of deaths in any of the corresponding quarters of previous years, except 1846 and 1849, when 101,663 deaths and 135,235 deaths respectively were registered. The excessive mortality in the summer of 1846 was the result of an extensive epidemic of summer cholera and diarrhoea; Asiatic cholera was epidemic in the summer of 1849; and in the present quarter the chief causes of the increase of deaths were the same as were in operation in 1846. The temperature of summer in 1846 was high; and the summer of 1852 exhibited great variations; on July 5th the temperature exceeded 90°, and through the month of July was 5° above the average; heavy thunderstorms were observed. The two subsequent months were colder or warmer than the average of the season.

Cholera, of the epidemic, or perhaps the Asiatic form, broke out in Warsaw, as well as other cities on the continent, and created some alarm in England while diarrhoea and summer cholera were prevailing.

\* Return with which the Registrar General has been favoured by the Emigration Commissioners.

In LONDON 1,433 deaths from diarrhoea, and 127 deaths from cholera, were registered in thirteen weeks. Diarrhoea, which had been fatal to 20, 10, 19, 13, and 17 persons in the five weeks ended July 3rd, when the mean weekly temperature was between 52° and 60°, rose, after the weekly temperature suddenly ascended to 71°, and remained above 65° or 60°,—to 31, 48, 94, 125, 213, 201, 208 in the 7 weeks ended August 21st. On the week following the deaths from diarrhoea fell to 125, and the deaths from cholera were 15. It was then observed in the report on the health of the week, that in the interval between the two great epidemics of Asiatic cholera, in the years 1832 and 1849, on the continent a partial outbreak occurred, which did not reach England; and a hope was expressed that, upon the present occasion, this country may enjoy a like immunity.

The deaths by cholera in London, during the five summer quarters of 1848-52, were 153, 12,847, 87, 188, 127. In the thirteen weeks of the past summer small-pox was fatal in 231 cases, measles in 129, scarlatina in 668, hooping-cough in 244, and typhus in 52·0. 1,672 persons died of consumption, 26 women died of metria, and 55 of other diseases incidental to child-bearing. An epidemic of boils prevailed, which is rarely fatal, but is indicated by the increase of deaths by carbuncle. 21 deaths were directly referred to intemperance, 28 to delirium tremens, only 1 to privation. The deaths by poison were 23, burns and scalds 24, hanging and suffocation 65, drowning 114, fractures and contusions 162, wounds 20.

The annual rate of mortality in the 117 London and other chief town districts, for the summer quarters 1842-51 was 2·536 per cent.; for the summer quarter of 1852 it was 2·590. The annual rate of mortality in the other 507 districts of the kingdom was 1·826 and 1·908. The increase was rather less in the town than it was in the country districts.

*Deaths in the Summer Quarters.*

	1842	1843	1844	1845	1846	1847	1848	1849	1850	1851	Total. 1842-51	1852
In 117 Districts, comprising the chief towns .....	39409	36953	38933	36139	51405	49479	43445	78159	42777	46061	462760	51635
In 506 Districts, comprising chiefly small towns and country parishes	42930	39839	40775	38733	50258	43956	44317	57205	43267	45539	446819	48862
Total.....	82339	76792	79708	74872	101663	93435	87762	135364	86044	91600	909579	100497

*Population, Deaths, and Mortality per cent. in the Summer Quarters of 11 Years, 1842-52.*

	Population Enumerated		Deaths in 10 Summer Quarters, 1842-51.	Annual Rate of Mortality of 10 Summer Quarters, 1842-51.	Annual Rate of Mortality in the Summer Quarter, 1852.
	June 6-7th, 1841.	March 31st, 1851.			
In 117 Districts, comprising the chief towns .....	6,612,958	7,795,882	462,760	2·536	2·590
In 506 Districts, comprising chiefly small towns and country parishes .....	9,301,190	10,126,886	446,819	1·826	1·908
All England .....	15,914,148	17,922,768	909,579	2·112	2·190



## MORTALITY OF THE METROPOLIS.

*A Table of the Deaths in London from all Causes, Registered in the September Quarters of the Four Years, 1849-52.*

CAUSES OF DEATH.	Quarters ended Sept.				CAUSES OF DEATH.	Quarters ended Sept.			
	1849.	1850.	1851.	1852.		1849.	1850.	1851.	1852.
ALL CAUSES.....	27,109	11,578	12,887	13,111	III. Scrofula.....	85	80	95	106
SPECIFIED CAUSES.....	27,050	11,520	12,837	13,007	Tabes Mesenterica..	282	238	251	279
I. Zymotic Diseases....	17,763	3,011	3,854	3,723	Phthisis or Con- } sumption.....	1,506	1,508	1,683	1,672
SPORADIC DISEASES.					Hydrocephalus....	393	357	348	406
II. Dropsy, Cancer, and } other Diseases of } uncertain or va- } riable Seat.....	540	574	571	555	IV. Cephalitis.....	131	131	132	130
III. Tubercular Diseases..	2,266	2,183	2,377	2,463	Apoplexy.....	282	281	293	283
IV. Diseases of the Brain, } Spinal Marrow, } Nerves, and Senses }	1,531	1,372	1,394	1,423	Paralysis.....	248	245	239	234
V. Diseases of the Heart } and Blood-Vessels }	455	424	418	464	Delirium Tremens..	61	55	35	28
VI. Diseases of the } Lungs and of the } other Organs of } Respiration.....	1,211	1,032	1,163	1,148	Chorea.....	..	1	2	2
VII. Diseases of the Sto- } mach, Liver, and } other Organs of } Digestion.....	861	748	803	846	Epilepsy.....	101	68	77	75
VIII. Diseases of the Kid- } neys, &c.....	143	166	131	124	Tetanus.....	7	4	1	3
IX. Childbirth, Diseases } of the Uterus, &c. }	118	116	119	108	Insanity.....	20	20	33	27
X. Rheumatism, Dis- } eases of the Bones, } Joints, &c.....	84	100	94	119	Convulsions.....	512	422	444	504
XI. Diseases of the Skin, } Cellular Tissue, &c }	15	16	20	26	Disease of Brain, &c.	166	145	138	137
XII. Malformations.....	49	43	37	48	V. Pericarditis.....	22	25	27	20
XIII. Premature Birth & } Debility.....	364	370	406	415	Aneurism.....	19	20	21	14
XIV. Atrophy.....	458	361	416	408	Disease of Heart....	414	379	370	430
XV. Age.....	558	439	502	510	VI. Laryngitis.....	33	43	28	31
XVI. Sudden*.....	184	115	85	71	Bronchitis.....	422	380	469	382
XVII. Violence, Privation, } Cold, and Intem- } perance.....	450	450	447	556	Pleurisy.....	30	24	33	31
					Pneumonia.....	587	439	478	544
					Asthma.....	62	83	66	71
					Disease of Lungs, &c	77	63	89	89
					VII. Teething.....	153	121	132	133
					Quinsey.....	20	15	14	17
					Gastritis.....	22	32	34	22
					Enteritis.....	135	106	114	131
					Peritonitis.....	48	57	44	47
					Ascites.....	29	35	35	35
					Ulceration (of In- } testines, &c.)... }	31	28	32	33
					Hernia.....	28	21	33	23
					Ileus.....	40	33	33	39
					Intussusception....	15	8	12	11
					Stricture of the In- } testinal Canal. }	6	13	10	9
					Dis. of Stomach, &c.	78	53	82	60
					Disease of Pancreas	..	1	..	1
					Hepatitis.....	57	47	46	60
					Jaundice.....	41	52	41	59
					Disease of Liver....	156	125	139	164
					Disease of Spleen..	2	1	2	2
					VIII. Nephritis.....	7	10	7	6
					Nephria (or Bright's } Disease)..... }	30	33	25	25
					Ischuria.....	4	3	1	2
					Diabetes.....	8	9	10	8
					Stone.....	8	6	6	5
					Cystitis.....	10	8	5	6
					Stricture of Urethra	12	16	11	13
					Dis. of Kidneys, &c.	64	81	66	59
					IX. Paramenia.....	2	2	1	6
					Ovarian Dropsy....	14	20	15	14
					Childbirth, see Metria	61	57	55	55
					Dis. of Uterus, &c...	41	37	48	33
					X. Arthritis.....	3	1	2	..
					Rheumatism.....	44	53	46	74
					Disease of Joints, &c.	37	46	46	45
					XI. Carbuncle.....	2	9	4	15
					Phlegmon.....	7	3	6	2
					Disease of Skin, &c.	6	4	10	9
					XVII. Intemperance.....	15	16	13	21
					Privation.....	12	2	3	1
					Want of Breast } Milk, see Privation }	69	57	67	101
					Neglect.....	3	1	..	..
					Cold, see Privation..	1	..	1	2
					Poison.....	20	26	10	23
					Burns and Scalds....	32	26	35	34
					Hanging, &c.....	35	53	43	65
					Drowning.....	96	94	89	114
					Fractures and Con- } tusions..... }	131	137	156	162
					Wounds.....	18	19	21	20
					Other Violence....	18	19	9	13
					Causes not specified	59	58	50	104
I. Small Pox.....	78	109	243	231					
Measles.....	274	178	260	129					
Scarlatina.....	386	316	291	668					
Hooping Cough.....	428	300	360	244					
Croup.....	76	57	46	74					
Thrush.....	67	59	74	72					
Diarrhœa.....	2,457	1,161	1,456	1,433					
Dysentery.....	208	73	67	58					
Cholera.....	12,847	87	188	127					
Influenza.....	9	9	7	3					
Purpura and Scurvy.....	13	9	14	11					
Ague.....	6	7	5	1					
Remittent Fever....	24	17	38	21					
Infantile Fever†....	15	8	17	10					
Typhus.....	710	474	627	520					
Metria, or Puer- } peral Fever, see }	33	33	34	26					
Rheumatic Fever, } see Rheumatism }	13	16	19	12					
Erysipelas.....	99	65	76	54					
Syphilis.....	17	33	23	24					
Noma or Canker, } see Mortification }	3	..	9	5					
Hydrophobia.....	..	..	..	..					
II. Hamorrhage.....	56	60	48	49					
Dropsy.....	203	191	177	183					
Abscess.....	22	17	23	27					
Ulcer.....	12	15	10	10					
Fistula.....	5	4	7	4					
Mortification.....	33	39	47	35					
Cancer.....	200	238	245	235					
Gout.....	9	10	14	12					

\* Under the head of "sudden deaths," are classed not only deaths described as sudden, of which the cause has not been ascertained or stated; but also all deaths returned by the Coroner in vague terms, such as "found dead," "natural causes," &c., &c.

† In the years previous to 1848, "Worms" and "Infantile Fever" were classed together. The former, of very rare occurrence, is now placed to diseases of stomach, &c.





## REVENUE.

*Abstract of the Net Produce of the Revenue of Great Britain in the Years and Quarters ending 5th January, 1852 and 1853; showing the Increase or Decrease thereof.—(Continued from page 373, vol. xv.)*

[From the "London Gazette."]

Sources of Revenue.	Years ended 5th January.			
	1852.	1853.	Increase.	Decrease.
	£	£	£	£
Customs.....	18,761,069	18,695,382	....	65,687
Excise .....	13,093,170	13,356,981	263,811	....
Stamps .....	5,933,549	6,287,261	353,712	....
Taxes .....	3,563,962	3,377,843	....	186,199
Property Tax .....	5,304,923	5,509,637	204,714	....
Post Office.....	1,064,000	1,022,000	....	42,000
Crown Lands.....	150,000	260,000	110,000	....
Miscellaneous .....	172,241	293,729	121,488	....
Total Ordinary Revenue	48,042,914	48,802,833	1,053,725	293,806
Imprest and other Moneys .	643,410	634,063	....	9,347
Repayments of Advances....	802,943	1,031,297	228,354	....
Total Income.....	49,489,267	50,468,193	1,282,079	303,153
Deduct Decrease .....			303,153	
Increase on the Year .....			978,926	

Sources of Revenue.	Quarters ended 5th January.			
	1852.	1853.	Increase.	Decrease.
	£	£	£	£
Customs .....	4,559,512	4,541,384	....	18,128
Excise .....	3,552,970	3,539,646	....	13,324
Stamps .....	1,427,485	1,615,029	187,544	....
Taxes .....	1,185,922	1,419,873	233,951	....
Property Tax.....	367,956	468,238	100,282	....
Post Office.....	246,000	272,000	26,000	....
Crown Lands.....	40,000	80,000	40,000	....
Miscellaneous .....	30,574	32,008	1,434	....
Total Ordinary Revenue	11,410,419	11,968,178	589,211	31,452
Imprest and other Moneys .	117,545	142,938	25,393	....
Repayments of Advances....	372,371	491,995	119,624	....
Total Income.....	11,900,335	12,603,111	734,228	31,452
Deduct Decrease .....			31,452	
Increase on the Quarter .....			702,776	

*Consolidated Fund Operations.*—The total income brought to this account in the quarter ended 5th January, 1853, was 12,631,747*l.* The total charge upon it was 7,716,669*l.*, leaving a surplus of 4,915,078*l.*

The surplus Revenue, after providing for the charge on the Consolidated Fund, and for the payment of Supply Services in Great Britain, in the quarter ended 5th January, 1853, was 474,918*l.*

## CORN.

*Average Prices of Corn per Imperial Quarter in England and Wales, during each Week of the Fourth Quarter of 1852; together with the Monthly, Quarterly, and Yearly Average—(Continued from p. 374, vol. xv.)*

[Supplied by the Controller of Corn Returns.]

Weeks ended on a Saturday, 1852.		Weekly Average.					
		Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
October	2 .....	38 9	27 4	17 4	30 5	33 10	30 0
	9 .....	38 5	27 5	17 6	28 10	34 0	30 4
	16 .....	37 10	27 8	18 0	30 1	34 1	30 4
	23 .....	38 8	28 8	17 10	25 8	34 2	30 9
	30 .....	39 2	29 5	17 6	26 0	34 7	31 5
Average for October .....		38 6	28 1	17 7	28 2	34 1	30 6
November	6 .....	39 5	29 9	18 3	24 10	35 3	33 5
	13 .....	39 11	30 2	18 7	27 8	35 4	32 6
	20 .....	40 0	30 6	18 9	29 9	35 6	33 3
	27 .....	40 5	30 7	18 6	27 1	35 2	32 3
Average for November .....		39 11	30 3	18 6	27 4	35 3	32 10
December	4 .....	41 2	30 0	18 5	30 11	35 5	32 8
	11 .....	42 1	29 9	18 7	26 11	35 4	31 10
	18 .....	43 10	29 9	18 5	29 2	34 6	32 0
	25 .....	45 11	29 9	18 6	29 4	34 11	32 4
Average for December .....		43 3	29 9	18 5	29 1	35 0	32 2
Average for the Quarter ....		40 5	29 3	18 2	28 2	34 9	31 9
Average for the Year 1852 ..		40 9	28 6	19 1	29 10	32 3	30 7

*Foreign and Colonial Wheat and Wheat-Flour imported in each of the Months ended 10th October, 5th November, and 5th December, 1852; the Quantities Entered for Home Consumption during the same Months; and the Quantities remaining in Warehouses at the close thereof.—(Continued from p. 374, vol. xv.)*

[From the "London Gazette."]

## WHEAT.

Months ended.	Imported.			Quantities entered for Home Consumption.			In Bond at the Month's end.		
	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.
1852.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.
10th Oct.	313,553	1,950	315,503	313,703	1,950	315,653	2,458	1	2,459
5th Nov.	414,325	5,889	420,214	414,325	5,889	420,214	2,458	1	2,459
5th Dec.	401,085	4,066	405,151	401,380	4,065	405,445	2,164	1	2,165

## WHEAT-FLOUR.

Months ended.	Imported.			Quantities entered for Home Consumption.			In Bond at the Month's end.		
	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.
1852.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.
10th Oct.	286,209	12,198	298,407	286,209	12,198	298,407	7	7	14
5th Nov.	260,795	24,246	285,042	260,795	24,246	285,042	7	7	14
5th Dec.	154,072	15,734	169,806	154,072	15,734	169,806	7	7	14





*Fluctuations in the Stock and Share Market during the Year 1852.—(Continued from p. 375, vol. xv.)*

Stock and Shares.	Amount of Share 31st December, 1852.	Amount Paid 31st December, 1852.	Price in 1852.		Highest Price during the Year.	Lowest Price during the Year.
			1st January.	31st December.		
Consols .....	.....	.....	97	100½ ex. div.	101 ex. div.	95½
Exchequer Bills .....	.....	.....	57s. Pm.	70s. Pm.	83s. Pm.	55s. Pm.
<b>RAILWAYS—</b>						
Brighton .....	Stock	Stock	96½	108	110½	93
Caledonian .....	Stock	Stock	33	67	70¼	28
Eastern Counties .....	Stock	20	6½	13½	13½	6¼
Great Northern .....	Stock	Stock	75½	82	92	71½
Great Western .....	Stock	Stock	87	95½	108	84
London and North Western .....	Stock	Stock	117¾	126	135¼	114
Midland .....	Stock	Stock	58½	80½	81	54
North Staffordshire .....	20	17½	9½	13¾	14	8¼
South Eastern .....	Stock	Stock	65½	84	85½	59¼
South Western .....	Stock	Stock	87	92	103	84
York, Newcastle, and Berwick .....	Stock	Stock	75	73	78¼	65½
York and North Midland .....	Stock	Stock	46½	60	64½	41
<b>—</b>						
Northern of France .....	20	16	18½	35	39	17¼
East Indian .....	20	20	23½	29	29¾	22¾



## CURRENCY.

## BANK OF ENGLAND.

*An Account, pursuant to the Act 7th and 8th Victoria, c. 32, for each Week ended on a Saturday, for the Fourth Quarter of 1852.*

[Compiled from the "London Gazette."]

## ISSUE DEPARTMENT.

Date.	Notes Issued.	Notes in hands of Public.	Government Debt.	Other Securities.	Gold Coin and Bullion.	Silver Bullion.	Date.	Notes Issued.	Notes in hands of Public.	Government Debt.	Other Securities.	Gold Coin and Bullion.	Silver Bullion.
1852.							1852.						
Oct. 2...	34,990,395	22,243,815	11,015,100	2,984,900	20,971,241	19,154	Nov. 20...	34,798,175	22,670,825	11,015,100	2,984,900	20,779,021	19,154
" 9...	34,907,830	22,252,185	11,015,100	2,984,900	20,888,676	19,154	" 27...	35,209,260	22,703,065	11,015,100	2,984,900	21,190,106	19,154
" 16...	35,052,305	23,659,860	11,015,100	2,984,900	21,033,151	19,154	Dec. 4...	35,246,890	22,723,150	11,015,100	2,984,900	21,227,736	19,154
" 23...	34,736,230	23,160,215	11,015,100	2,984,900	20,717,076	19,154	" 11...	34,970,670	22,555,570	11,015,100	2,984,900	20,951,516	19,154
" 30...	34,767,270	23,813,055	11,015,100	2,984,900	20,748,116	19,154	" 18...	34,495,125	22,236,465	11,015,100	2,984,900	20,475,971	19,154
Nov. 6...	34,592,735	23,351,145	11,015,100	2,984,900	20,578,581	19,154	" 25...	34,071,925	22,225,505	11,015,100	2,984,900	20,052,771	19,154
" 13...	34,699,275	23,202,285	11,015,100	2,984,900	20,680,121	19,154							

## BANKING DEPARTMENT.

Date.	Proprietors' Capital.	Rest.	Public Deposits.	Other Deposits.	Seven Day and other Bills.	Total Dr.	Government Securities.	Other Securities.	Notes.	Gold and Silver Coin.	Total Cr.
1852.											
Oct. 2...	14,553,000	3,557,415	8,935,158	11,532,546	1,395,587	39,973,706	14,189,182	12,474,729	12,746,580	563,215	39,973,706
" 9...	14,553,000	3,559,657	9,076,438	11,493,050	1,456,439	40,138,584	14,189,182	12,483,059	12,655,645	810,188	40,138,584
" 16...	14,553,000	3,096,196	4,898,568	13,107,431	1,492,839	37,148,034	13,950,375	11,187,061	11,392,445	618,153	37,148,034
" 23...	14,553,000	3,098,897	4,449,346	13,670,230	1,442,560	37,214,033	13,950,375	11,179,558	11,576,015	508,085	37,214,033
" 30...	14,553,000	3,100,802	4,664,600	12,801,729	1,471,650	36,591,781	13,950,375	11,296,193	10,954,215	390,998	36,591,781
Nov. 6...	14,553,000	3,125,075	5,040,143	12,653,673	1,485,294	36,857,185	13,950,375	11,362,535	11,241,590	302,685	36,857,185
" 13...	14,553,000	3,127,453	5,973,230	12,367,099	1,507,161	37,527,943	13,962,688	11,493,768	11,496,990	574,497	37,527,943
" 20...	14,553,000	3,131,287	6,661,061	12,414,448	1,459,664	38,219,460	13,962,688	11,605,603	12,127,350	523,819	38,219,460
" 27...	14,553,000	3,123,998	7,258,422	12,493,548	1,501,942	38,930,910	13,962,688	11,963,622	12,506,195	498,405	38,930,910
Dec. 4...	14,553,000	3,073,710	7,637,710	12,699,303	1,493,667	39,458,691	13,962,688	12,410,821	12,523,740	561,442	39,458,691
" 11...	14,553,000	3,077,317	7,955,077	12,507,244	1,444,938	39,537,476	13,962,688	12,620,203	12,415,100	539,485	39,537,476
" 18...	14,553,000	3,080,773	8,648,726	12,496,270	1,468,714	40,247,483	13,962,688	13,356,036	12,258,660	670,099	40,247,483
" 25...	14,553,000	3,083,969	9,297,726	12,264,343	1,423,287	40,622,325	13,962,688	14,135,952	11,846,420	677,265	40,622,325

## CURRENCY.—Continued.

## COUNTRY BANKS.

*Average Amount of Promissory Notes in Circulation in England and Wales in each week, ended on a Saturday, for the Fourth Quarter of 1852.*

[Compiled from the "London Gazette."]

ENGLAND AND WALES.			
Date.	Private Banks.	Joint Stock Banks.	Total.
1852.			
Oct. 2.....	3,636,500	3,032,977	6,669,477
„ 9.....	3,827,080	3,105,824	6,932,904
„ 16.....	3,904,871	3,159,353	7,064,224
„ 23.....	3,894,690	3,077,673	6,972,363
„ 30.....	3,867,599	2,980,743	6,848,342
Nov. 6.....	3,850,756	2,993,999	6,844,755
„ 13.....	3,813,627	3,006,909	6,820,536
„ 20.....	3,756,726	2,983,962	6,740,688
„ 27.....	3,698,717	2,931,948	6,630,665
Dec. 4.....	3,670,280	2,911,232	6,581,512
„ 11.....	3,647,619	2,910,803	6,558,422
„ 18.....	3,642,541	2,918,270	6,560,811
„ 24.....	3,632,016	2,916,002	6,548,018

Fixed Issues—Private Banks, £4,655,619; Joint Stock Banks, £3,409,987.

*Average Amount of Promissory Notes in Circulation in Scotland and Ireland during the Months ended the 30th of October, the 27th of November, and the 25th of December.*

SCOTLAND.			
Date.	£5 and above.	Under £5.	Total.
1852.	£	£	£
Oct. 30.....	1,257,230	2,363,453	3,620,689
Nov. 27.....	Returns incomplete	Returns incomplete	Returns incomplete
Dec. 25.....	1,273,612	2,490,449	3,764,064

IRELAND.			
Date.	£5 and above.	Under £5.	Total.
1852.	£	£	£
Oct. 30.....	2,447,993	3,098,479	5,546,472
Nov. 27.....	2,417,663	3,205,487	5,623,152
Dec. 25.....	2,408,296	3,277,144	5,685,441

Fixed Issues—Scotland, £3,087,209; Ireland, £6,354,494.



QUARTERLY JOURNAL  
OF THE  
STATISTICAL SOCIETY.

---

JUNE, 1853.

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*Fifteenth Anniversary Meeting of the Statistical Society.*  
Session 1852-53.

[Held at No. 12, St. James's Square, London, Monday, 21st March, 1853.]

THE RIGHT HON. LORD OVERSTONE, *President, in the Chair.*

The Secretary read the following Report of the Council on the progress of the Society during the past year:—

*Report of the Council.*

THE Council of the Statistical Society have the satisfaction of rendering to the Fellows a very favourable Report of the transactions of the past year.

The Society has received a further accession to the number of its Members. The increase by new elections having been twenty in number, and the decrease by deaths and withdrawals fifteen, there is a balance in favour of the Society of five additional Members.

The Council regret to state that among their losses by death are two of their most esteemed Members, G. R. Porter, Esq., F.R.S., Treasurer of the Society, and Joseph Fletcher, Esq., one of the Honorary Secretaries.

The Council feel assured that the Fellows will unite with them in an expression of profound regret at the loss which the Society has thus sustained.

Mr. Porter, it will be recollected, was Joint Secretary of the Board of Trade, and author of various works relating to statistics and political economy, of which the most extensive, the most useful, and the most widely known, is "The Progress of the Nation." Several valuable statistical essays from his pen, appeared in Lardner's Cyclopædia, and in the Companion to the Almanac, between the years 1834 and 1845. His first work of importance was that on the Nature and Properties of the Sugar Cane; his last literary effort, in a separate form, was the

translation of Bastiat's "*Sophismes Economiques*." He also contributed to the transactions of this Society a series of most valuable essays, commencing with the year 1838, and ending with the year 1852. The Progress and present extent of Savings' Banks in the United Kingdom; the Influence of Education as shown by Criminal Returns; the Agricultural Statistics of Ireland; a Comparative Statement of Prices and Wages during the years from 1842 to 1849; an Examination of the recent Statistics of the Cotton Trade of Great Britain; the Self-imposed Taxation of the Working Classes in the United Kingdom; and the Accumulation of Capital by the different Classes of Society, are among the most recent of Mr. Porter's contributions. The extent and value of the statistical information which these essays contain, and their direct bearing upon some of the most important social questions of our times, have caused them to be as highly appreciated by the public at large as by the Society to which they were originally addressed. Other valuable papers, on the Systematic Collection of the Statistics of Agriculture; on the Census of 1841, and on the Ages of the English Population according to that Census; and a paper on Railway Statistics make up the number of Mr. Porter's contributions on subjects of immediate interest to our own countrymen. His papers on Mining Industry in France, published in 1838, on the Mining Statistics of France, published in 1844, and that on the productive Industry of Paris, which was read before the Statistical Section of the British Association at Belfast, on the 2nd of September, 1852 (the day before his death), and published in the Journal of this Society in December of last year, evince both the deep interest which he took in the material progress of our nearest continental neighbours, and the accurate and extensive knowledge which he possessed on that subject.

The Council feel that this enumeration of Mr. Porter's contributions to the Journal of the Society must constitute in the eyes of its Fellows the most welcome tribute they could offer to his memory.

The Council have ordered these essays to be bound up in a separate volume, and to be placed on their shelves, partly as a permanent tribute to his memory, and partly for the convenience of those who may wish to peruse his valuable papers in a collected form.

Mr. Fletcher, our late Honorary Secretary, was a Government Inspector of British Schools, but had previously filled more than one public office, with the greatest credit to himself and advantage to the public. His first official employment was as Secretary to the Commission of Inquiry relative to the Hand Loom Weavers. He subsequently filled the same office in connection with the Children's Employment Commission, and was the author of the interesting and instructive Reports on that subject. His appointment as Inspector of Schools took place in 1844; but that important post, though it entailed upon him the duty of furnishing that series of voluminous reports in which he displayed so much industry, ability, and sound judgment, joined to so deep and abiding an interest in the great work entrusted to his hands, was not permitted to impair his efficiency as an officer of this Society, nor did it prevent him from rendering valuable services to the British Association as Secretary to its Statistical Section. He was also Editor of the Journal of this Society, to which his contribu-



tions on the Municipal Institutions of the Metropolis, and on Moral and Educational Statistics, fill two considerable volumes on the shelves of our library.

The Council, in virtue of the powers conferred upon them by the 14th regulation, proceeded to fill up the vacancies occasioned by the deaths of Mr. Porter and Mr. Fletcher by appointing Benjamin Phillips, Esq., F.R.S., Treasurer of the Society, in lieu of Mr. Porter, and F. G. P. Neison, Esq., as Honorary Secretary, in lieu of Mr. Fletcher. Dr. Guy, one of the Honorary Secretaries, has been appointed Editor of the Journal. The Council have also appointed Mr. Cheshire to fill the office of Assistant Secretary, vacant by the resignation of Mr. T. J. Brown.

The Meetings of the Society during the past year have been exceedingly well attended; and some of the subjects brought forward for discussion have excited an unusual degree of interest. Since the last anniversary of the Society eleven communications have been read and discussed; they have been nearly equally divided between the important department of Vital Statistics, in which the Journal of the Society, from its commencement, has been extremely rich; and subjects having a direct bearing upon the science of political economy and the inquiries which are most calculated to interest the statesman.

The contributions belonging to the department of Vital Statistics consisted of an interesting paper by Mr. Neison, on the Rate of Mortality in the Medical Profession; of a valuable communication by Colonel Sykes, on the Mortality and Sickness of the Bombay Army, during the years 1848-9, followed by an elaborate essay on the Vital and Medical Statistics of Chittagong, by J. A. Bedford, Esq.; of a paper by Mr. Farr, on the Influence of Elevation on the Fatality of Cholera; of a Translation by A. S. O. Massey, Esq., of a Treatise on the Statistics of the Insane, Blind, Deaf and Dumb, and Lepers in Norway, from the pen of Professor Holst, and of a paper by Dr. Hübertz on Mental Diseases in Denmark. The communications which have been mentioned as having a more direct bearing on the science of Political Economy, are a second paper by Dr. Guy, on the Effect of the Remission of Taxes on the Revenue in the Thirty Years, from 1822 to 1851 inclusive, and a paper by the same author, on the Relation of the Price of Wheat to the Revenue; an Essay on the Valuation and Purchase of Land in Ireland, by John Locke, Esq., and the valuable paper by Mr. Farr, on the Income Tax, which has so recently engaged the attention of the Society. Mr. John Crawford's paper on the History and Consumption of Tobacco, and a paper on the Population of the Colony of British Guiana, as enumerated on the 31st of March, 1851, being the substance of a Despatch from Governor Barkly, complete this enumeration of the transactions of the Society for the past year. The Society is indebted for this last communication to the courtesy of Earl Grey during his tenure of the office of Secretary of State for the Colonies. The Council have also the pleasure of stating, that the Statistical Section of the British Association, last autumn, was unusually well attended, and that many highly interesting papers were submitted to it, of which several either have appeared, or will appear, in the pages of the Journal of this Society.

As the Journal now amounts to fifteen volumes, the Council have

authorised the Honorary Secretaries to take the necessary steps for preparing a general index ; in which useful work, they are happy to state that some progress has been already made.

The financial condition of the Society is very satisfactory. All its sources of income for the past year exhibit an increase over the corresponding items in the account of the previous year. The subscriptions have increased by 76%, compositions by 21%, and the sales of the Journal by 20% ; making a total increase for 1852, of 117% over the receipts for 1851, and of 75% over the average of the last five years. The total receipts for the year ending 31st of December, 1852, amounted to 808*l.* 2*s.* 2*d.*, the total expenditure to 830*l.* 16*s.* There was, therefore, an excess of expenditure over income, of nearly 23*l.*, which will be found to correspond with the difference between the balances in hand at the beginning of the year 1852 and 1853 respectively, in the annexed balance sheet, signed by the Auditors. The excess of expenditure over that of the previous year, is 171*l.*, and over that of the average of the last five years, 93*l.* Of this sum of 171*l.*, 86*l.* has been applied to the discharge of liabilities, and 26*l.* in the purchase and repair of book-cases. Among the liabilities cleared off last year, there is one for printing the Journal amounting to 67*l.* 6*s.* 4*d.* After discharging this liability, there remained (as will be seen by a reference to the annexed balance sheet) a further liability to the Society's printer of 304*l.* 1*s.* 6*d.* The Council are happy to state, that this debt has been subsequently cleared off, without encroaching upon the vested capital of the Society, and so as to leave a sufficient balance in hand to meet all current expenses ; and there is now a prospect not only of being able to pay the expenses of the Journal as they occur, but also of maintaining the Society in its present favourable position of not having a single liability of any kind. This favourable financial condition is attributable in part to the increase of income already referred to, and in part to an advantageous arrangement which the Council have entered into with the Institute of Actuaries, by which their income in future years will be increased upwards of 100% per annum. This arrangement, which consists in granting to the Institute of Actuaries the use of the Society's rooms at certain defined times, when they are not required for the service of this Society, on condition that the Institute of Actuaries shall share certain expenses hitherto borne exclusively by the Statistical Society, is believed to be advantageous to both the contracting parties, and will enable the Council to make those additions to the library of the Society, which they have so long felt to be necessary. The Council are deeply impressed with the importance of improving this essential part of every well-conducted society, and have accordingly already given their best attention to this subject, and have voted a sum for the purposes of the library. They continue to receive considerable additions to their collection of books from scientific societies, at home and abroad, and from the heads of government departments, as well as at the hands of individuals.

The Council, in conclusion, beg to offer to the Fellows of the Society their congratulations on its favourable condition and prospects.

The President addressed the Meeting at considerable length on the subject of the Report, and in the course of his speech delivered a lucid



and able exposition of the objects of the Society, and of the principles and utility of statistical science.

Sir John P. Boileau, Bart., moved, and Colonel Sykes seconded, the adoption of the Report; and a ballot having taken place for the President, Council, and Officers for the year ensuing, the following was declared to be the list:—

*President.*

The Right Hon. Charles Earl Fitzwilliam, K.G., F.R.S.

*Treasurer.*

Benjamin Phillips, Esq., F.R.S.

*Honorary Secretaries.*

W. D. Oswald, Esq. | W. A. Guy, M.B. | F. G. P. Neison, Esq.

*Council.*

James Bird, M.D.  
 Sir John P. Boileau, Bart, F.R.S.  
*Lord Alfred Churchill*  
 John Towne Danson, Esq.  
 Rev. E. Wyatt-Edgell  
 William Farr, Esq.  
 The Right Hon. Charles, Earl Fitzwilliam,  
 K.G., F.R.S.  
 J. W. Gilbert, Esq., F.R.S.  
 The Right Hon. W. E. Gladstone, M.P.  
 W. A. Guy, M.B.  
 James Heywood, Esq., M.P., F.R.S.  
 Thomas Hodgkin, M.D.  
 Sir Charles Lemon, Bart., M.P., F.R.S.  
 W. G. Lumley, Esq.  
 The Right Hon. Holt Mackenzie, F.G.S.  
 John Melville, Esq.

Francis G. P. Neison, Esq.  
 William Newmarch, Esq.  
 W. D. Oswald, Esq.  
 The Right Hon. Lord Overstone  
 The Right Rev. the Lord Bishop of  
 Oxford, F.R.S., V.P.A.S.  
 Benjamin Phillips, Esq., F.R.S.  
*Thomas Henry Sutton Sotheron, Esq.,*  
*M.P.*  
 Sir G. Staunton, Bart., M.P., F.R.S.  
 Lieut.-Colonel W. H. Sykes, F.R.S.  
*Sir J. Emerson Tennent*  
 Thomas Tooke, Esq., F.R.S.  
 John Ingram Travers, Esq.  
*Lord Harry George Vane*  
*John Walter. Esq., M.P.*  
*The Right Hon. Lord Wodehouse*

*The names printed in Italics are those of new Members of Council.*

The Right Hon. Holt Mackenzie then moved, and Sir George Staunton, Bart., seconded, a vote of thanks to the Chairman for his assiduous and valuable services to the Society during the two years of his tenure of office; and the same having been carried unanimously the Meeting adjourned.





*Administration of Civil Justice in British India, for a period of Four Years, chiefly from 1845 to 1848, both inclusive.* By COLONEL SYKES, F.R.S.

I SUBMITTED to the Statistical Society, on the 20th March, 1843, tables of the administration of civil and criminal justice in British India for a period of four years, together with details of the nature and constitution of the several courts, their functions and powers. On the 11th August, 1848, I submitted to the Statistical Section of the British Association at Swansea\*, a similar series of four years, with a view to show how far the results of the two periods corresponded. I now submit a third series of four years, embracing in all twelve years; and, as the whole will give the numerical details of a long period, if the results be found to have a certain degree of uniformity it may be legitimately asserted that, to a certain extent, normal conditions have been established. I am glad to say, that these relations and consequences are manifest in the third series; and it may be broadly stated that the Act of 1833, enjoining upon the East India Company the extensive employment of natives in places of trust and responsibility, has been eminently successful, so far as their aid in the administration of justice is concerned. The present tables from the different Presidencies, like the former, want a common character; but, as the forms of tables which were sent to India some years ago to be adopted by all the Company's courts in India, have now been directed to be brought into use, it is believed, that for the future the uniformity of system will admit of rigid comparisons being established, not only between one court and another of the same Presidency, but between the returns from the different Presidencies. Instead of giving the results of the operations of the several tribunals for each year separately, I have thought it better, for the sake of condensation, to give the aggregate results of the four years, 1845-6-7-8, and the per centages upon the aggregate. And first with respect to the Bengal Presidency.—The total number of cases admitted and readmitted in these four years, inclusive of 44,920 depending, on the 1st January, 1845, was 540,327. The total number disposed of in this period was 431,679, and 62,777 were transferred between the different courts, leaving undisposed of, on the 31st December, 1848, an aggregate of 45,877† cases, a small increase on the first three years; the chief accumulation of arrears having taken place in the courts of the Zillah and city judges, and Principal Sudder Ameens, although the city and Zillah judges transferred to other courts annually rarely less than 10,000 cases. The Sudder Ameens diminished their arrears from 1,650, in 1845, to 1,381, in 1848; and the Moonsiffs diminished theirs from 35,449 cases to 31,078 cases. The two minor courts, therefore, got through their business faster than the superior courts, but this may be attributed to their limited jurisdiction for small amounts. One very satisfactory feature in the returns is, the very large number of cases which were mutually

\* See *Journal of Statistical Society*, February, 1849.

† There is a typographical error of six suits somewhere.

arranged; even in the great interests at stake before the Sudder Adawlut, by Table VIII., it would appear that 45 cases were settled to the satisfaction of both parties; and in the lower courts there were no less than 51,186 cases. The defaults are not satisfactory, for there are 67 in the ultimate court of appeal, and 101,616 in the lower courts, seeming to indicate that there must have been a great amount of vexatious litigation. The per centage of the work done of the 431,679 cases by the different courts was as follows:—

Tribunals.	Number of Cases determined in Four Years.	Per Centage of whole work done.	Or One in
Sudder Adawlut .....	1,785	0·41	242 cases
Zillah and City Judges .....	13,119	3·04	33 „
Principal Sudder Ameens .....	34,999	8·11	12·3 „
Sudder Ameens .....	8,314	1·92	52·0 „
Moonsiffs.....	373,462	86·52	1·1 „
Total .....	431,679	100·00	

We hence see that the highest appellate court did not do a-half per cent. of the whole work, and only one in every 242 cases came to the court. The European Zillah judges did 3 per cent. of the work, and the remaining  $96\frac{1}{2}$  per cent. of the work was done by the native judges; the principal Sudder Ameens 8 per cent.; the Sudder Ameens less than 2 per cent., and the Moonsiffs  $86\frac{1}{2}$  per cent. Why the Sudder Ameens should have done less work than the European Zillah judges is not explained. The above remarks relate to original and appeal suits; but the quality of the work done will best be shown by the respective amounts of the appeals from the decisions of the tribunals—as exhibited in the following table:—

*Bengal—Appeals against Decisions of*

	Number of Suits Appealable in Four Years.	Number Appealed in Four Years.	Number Reversed or Modified.	Per Centage Appealed.	Per Centage Reversed or Modified of Appeals.	Per Centage Reversed to Total Appealable Cases.
Zillah Judges.....	....	1,080	142	....	13·2	....
Principal Sudder Ameens	28,520	3,669	1,271	12·8	34·6	4·4
Sudder Ameens.....	6,057	2,301	797	37·9	34·5	13·1
Moonsiffs .....	230,482	34,964	11,207	15·1	32·0	4·9

From the Zillah judges' courts the total number of appeals was 1,188\*, but as 108 were depending at the end of 1848, only 1,080 appeals were decided by the Sudder Adawlut, of these, 13·2 per cent.

\* Vide Table III.



were reversed or modified; but as 382 cases were remanded to be re-tried, the want of confirmations against the decisions of the Zillah judges really amounted to 48·5 per cent. The Principal Sudder Ameens had 3,669 cases appealed to the higher courts, and 1,271 reversed or modified; the per centage on the whole appealable cases was, therefore, 12·8 per cent., the per centage of the appealed cases reversed was 34·6 per cent.; but the per centage of reversals to the whole appealable cases was only 4·4 per cent. The Sudder Ameens appear to have been the least efficient of all the judicial officers, European or native, for in only 6,057 appealable suits, 2,301 were appealed, and 797 reversed or modified; so that the per centage appealed was 37·9, the reversals 34·5 per cent., and the per centage of reversals to the whole appealable cases, 13·1. Although the per centage of the appealed cases reversed is not greater than that of the Principal Sudder Ameens, yet the per centage of the appealed cases, and of the reversals, is so much greater than in any other court, that there would seem to be some cause for it, which demands inquiry. The great mass of business was performed by the lowest courts, those of the Moonsiffs, and very creditably to them. Out of 230,482 cases, only 15·1 per cent. were appealed; and though 32 per cent. of the cases so appealed were reversed or modified, it was less than in any other court, and the reversals were less than 5 per cent. of the whole appealable suits. Table V. gives the average duration of a suit during the four years under review in the different courts; and considering the great interests with which the Sudder Adawlut only acts, a chancery suit, which ranges in duration from 1 year 4 months and 16 days, in 1846, to only 9 months and 12 days, in 1848, may not be looked upon as unreasonably long. In 1848 the Zillah judges took 1 year 8 months and 27 days to each suit; but in 1845 the time was only 8 months and 11 days. The Principal Sudder Ameens increased the average time of a suit gradually from 6 months and 23 days to 9 months and 18 days. In a similar manner the Sudder Ameens increased theirs from 4 months and 17 days to 7 months and 13 days, in 1848: an additional subject for inquiry. The Moonsiffs, with their mass of business, diminished the average time of a suit from 4 months and 10 days to 3 months and 28 days.

The suits appealed to the Sudder Adawlut in four years amounted to 2,120, inclusive of 420 depending, on the 1st January, 1845; of this number, 1,785 were disposed of, leaving 335, on the 1st January, 1849; so that this court had not allowed any accumulations of arrears. The value of these suits was nearly  $5\frac{1}{2}$  millions sterling, 5,479,124*l.* The value of the original suits before the other courts was nearly  $16\frac{1}{2}$  millions sterling, 16,447,045*l.*; and the value of the appeals before these courts was 1,396,486*l.* Table VII. gives the value of the suits before the Sudder Adawlut arranged in five denominations of value; and it may cause surprise to find, that 323 of these are for sums under 50*l.*, while for sums above 1,000*l.* there are 521 suits.

The subjects of the suits chiefly, as at the other Presidencies, relate to debt and land; but, unlike the other Presidencies, there is a disproportionate number connected with religion, caste, &c.

As the population of the Regulation Provinces of Bengal is estimated at 36,848,981, there was one suit to every 341 souls annually, or one suit to every  $75\frac{3}{4}$  families, at  $4\frac{1}{2}$  souls to a family.

TABLE I.—Operations of the several Tribunals.—Original and Appeal Suits.

	Depending 1st January.			Admitted and Re-admitted.			Disposed of.			Transferred to other Jurisdictions.			Depending 31st December.		
	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1847.	1848.
Sudder Dewanny } Adawlut.....	420	446	472	496	383	286	551	480	357	260	537	641	446	472	335
Zillah and City } Judges.....	2,864	3,231	4,048	6,016	14,686	14,776	14,917	13,847	3,503	3,430	3,119	3,067	3,231	4,048	6,073
Principal Sudder } Ameens.....	4,537	5,298	5,221	5,591	10,695	9,126	9,594	10,699	8,994	8,766	8,209	9,030	5,298	5,221	5,891
Sudder Ameens } .....	1,650	1,400	1,510	1,266	2,923	2,755	2,000	1,845	2,509	2,460	1,817	1,528	1,400	1,510	1,266
Moonsiffs } .....	35,449	35,269	33,676	33,084	103,599	96,800	96,359	89,086	98,960	94,398	92,795	87,309	35,269	33,676	31,078
Total .....	44,920	45,644	44,927	46,753	132,286	123,743	123,421	115,957	114,323	109,314	106,467	101,575	45,644	44,927	45,877

TABLE II.—Appellate Jurisdiction over the several Classes of Native Judges.

	Appealable.			Appealed.			Affirmed.			Modified and Reversed.		
	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.
Principal Sudder Ameens...	7,518	7,208	6,618	7,176	846	912	992	488	371	335	265	300
Sudder Ameens.....	1,776	3,765*	1,348	1,168	650	498	433	314	226	212	197	162
Moonsiffs .....	59,328	58,104	58,699	54,351	8,641	9,004	8,605	4,046	2,757	3,041	2,706	2,703

\* As this exceeds the whole number of cases decided, it is probably a mistake for 1,765.

TABLE III.—Appellate Jurisdiction of Sudder Dewanny Adawlut over Zillah Judges and Principal Sudder Ameens.

	Number of Appeals.			Affirmed.			Reversed or Modified.			Remanded for Re-trial.			Otherwise Disposed of.			Pending.		
	1845	1846	1847	1845	1846	1847	1845	1846	1847	1845	1846	1847	1845	1846	1847	1845	1846	1847
From Zillah Judges .....	300	213	355	19	19	33	20	34	38	123	30	127	2	7	6	136	123	151
From Principal Sudder Ameens	485	505	637	99	63	106	27	32	54	82	51	126	19	19	16	303	340	335



TABLE IV.  
*Description of Original Suits.*

	Connected with Land.	Connected with Debt.	Connected with Caste, Religion, &c.	Connected with Indigo, Sugar, &c.
1845.....	25,100	65,824	11,617	713
1846.....	25,333	58,035	12,295	669
1847.....	24,681	57,210	12,228	662
1848.....	23,056	53,837	11,396	446

TABLE V.  
*Average Duration of a Suit before the several Tribunals according to the  
Average Number of Decrees.*

	1845.			1846.			1847.			1848.		
	Yrs.	Ms.	Dys.	Yrs.	Ms.	Dys.	Yrs.	Ms.	Dys.	Yrs.	Ms.	Dys.
Sudder Dewanny Adawlut .....	1	2	13	1	4	16	1	4	28	0	9	12
Zillah and City Judges .....	0	8	11	0	11	12	1	6	27	1	8	27
Principal Sudder Ameens.....	0	6	23	0	6	23	0	7	29	0	9	18
Sudder Ameens.....	0	4	17	0	5	13	0	5	21	0	7	13
Moonsiffs .....	0	4	10	0	4	2	0	4	3	0	3	28

TABLE VI.  
*Total Value of Regular Suits depending at the end of the Year.*

	1845.	1846.	1847.	1848.
	Rupees.	Rupees.	Rupees.	Rupees.
Before Sudder Adawlut	2,01,20,347	94,61,347	1,42,54,365	1,09,55,187
Other courts—Original	4,28,79,276	4,99,78,036	3,63,23,474	3,52,89,667
„ „ Appeal	19,62,691	18,59,963	71,92,446	29,49,760

TABLE VII.  
*Value of Suits before Sudder Dewanny Adawlut.*

	Below 500 Rupees.		Above 500 Rupees.		Above 1,600 Rupees.		Above 5,000 Rupees.		Above 10,000 Rupees.		Total.
	Num- ber of Suits.	Value.	Num- ber of Suits.	Value.	Num- ber of Suits.	Value.	Num- ber of Suits.	Value.	Num- ber of Suits.	Value.	
		Rupees.		Rupees.		Rupees.		Rupees.		Rupees.	
1845...	78	15,379	55	59,864	51	1,64,193	126	9,64,617	136	1,89,16,314	2,01,20,347
1846...	76	13,952	65	65,691	49	1,57,730	138	10,66,088	144	81,57,886	94,61,347
1847...	109	16,909	60	57,017	53	1,71,452	135	10,05,846	139	1,30,03,141	1,42,54,365
1848...	60	11,110	53	62,454	43	1,30,867	77	6,06,992	102	1,01,43,764	1,09,55,187
Total	323	57,350	233	245,026	196	624,242	476	3,643,543	521	5,0221,105	5,4791,246

TABLE VIII.

*Number of Suits Dismissed from Default and Adjusted or Withdrawn.*

	Years.	Defaults.	Adjusted or Withdrawn.
Sudder Courts.....	1845	17	10
Ditto .....	1846	15	12
Ditto .....	1847	13	9
Ditto .....	1848	22	14
Total .....		67	45
Other Courts .....	1845	27,319	14,797
Ditto .....	1846	25,175	13,625
Ditto .....	1847	24,630	11,783
Ditto .....	1848	24,492	10,981
Total .....		101,616	51,186

*Administration of Civil Justice in the North-West Provinces, or Agra Government, for a period of Four Years, from 1845 to 1848, both inclusive.*

Making the several additions and deductions for receipts and transfers in the several courts of the North-West Provinces, the total cases, original and appeal, for decision, in the four years, from 1845 to 1848, both inclusive, was 297,169, distributed as follows:—

	Total Number of Suits in Four Years for Decision.	Total Number Decided by each Court.	Per Centage of work done by each Court to whole number.	Per Centage of work done by each Court of the Cases decided.	Or One Case in
Sudder Adawlut .....	901	844	0·28	0·31	330
Judges .....	17,829	15,497	5·21	5·56	11·5
Principal Sudder Ameens...	24,058	22,039	7·42	7·90	12·6
Sudder Ameens .....	27,769	26,178	8·81	9·40	10·6
Moonsiffs.....	226,612	214,037	72·02	76·83	1·3
Total .....	297,169	278,595	100·00*	100·00	....

\* Including 6·26—the per centage of work undone.

Although the Supreme Court, which is exclusively an appellate court, only decided about three decimals per cent. of the whole number of cases judged in four years, the mere per centage of labour is necessarily no type of the great interests at stake, nor of the deliberation required. And the same may be said of the judges, who did little



more than  $5\frac{1}{2}$  per cent. of the whole work; and as of the whole number of cases, 15,497, decided by the judges, only 271 were original suits: the work done was upon appeals. About every 330th suit was appealed to the Sudder Adawlut or chancery, and about every 11th to the European judges. The Principal Sudder Ameens have also appellate as well as original jurisdiction; and the appeals received by their courts approached the original suits in the proportion of 11,044 to 12,402. They appear to have done nearly 8 per cent. of the whole work, and every 12·6 suit came under their cognizance. The Sudder Ameens have not appellate jurisdiction, and they did nearly  $9\frac{1}{2}$  per cent. of the whole work, and every 10·6 suit came before them. As might be expected from the number of the courts, and the small interests involved, the great mass of work was done by the Moonsiffs, amounting to 72 per cent., which, however, is much less than at the other Presidencies. The total per centage of the work done by the native judges was 94·14; and the only mode of estimating the quality of this work, and the satisfaction it gave, is by the number of appeals and reversals.

*Appellate Jurisdiction over the several Tribunals.*

	Ap- pealable Suits.	Appealed.	Per Centage Ap- pealed.	Reversed or Modified.	Per Centage of Appealed Cases Reversed or Modified.	Per Centage of Reversals or Modifi- cations to all Appealable Cases.
Judges .....	15,742	374	2·3	296	79·1	1·9
Principal Sudder Ameens	22,478	4,776	21·2	1,301	27·2	5·8
Sudder Ameens.....	19,098	3,150	16·4	1,232	39·1	6·4
Moonsiffs .....	144,612	21,892	15·1	6,810	31·1	4·7
Total.....	201,930	30,192	14·95	9,639	31·90	4·77

The above table exhibits some features with respect to the judges, which the official returns do not assist me to explain. In four years the European judges had only 271 original suits to decide, consequently the remainder were cases of appeal from the lower courts to the judges; from these decisions on the appeals only 374 cases, or 2·3 per cent., were appealed to the highest tribunal; but the reversals (296) of these more than doubled the per centage of the most unfavourable of the lower courts, amounting, in fact, to 79·1 per cent., or nearly four-fifths of all the cases appealed. I am disposed to think there must be some error in the tables. The Principal Sudder Ameens, who have appellate as well as original jurisdiction, appear to have had more appeal cases referred to them than original suits. The per centage appealed was 21·2, but the reversals of these was smaller than in any of the other courts, amounting to 27·2 per cent.; that of the judges being 79·1. The per centage of the reversals or modifications to the whole appealable cases was 5·8 per cent. The Sudder Ameens

and Moonsiffs, who have only original jurisdiction, had a smaller percentage appealed than the Principal Sudder Ameens, being respectively 16·4 per cent. and 15·1 per cent.; but the Sudder Ameens had a larger proportion, 39·1 per cent., of reversals than any tribunals, excepting the judges, while the per centage of reversals to all the appealable cases, 6·4 per cent., was greater than in any other courts except those of the judges. On the whole, the Moonsiffs appear to have the least to be said against them: in the smallest per centage, 15·1 of appeals, and of reversals 4·7 per cent., to the whole appealable cases, excepting the judges. The per centage of reversals of all the *appealable* cases before all the courts was 4·77 per cent.

The next important branch of the administrative processes is the duration of a suit; and in this all the judges, whether European or native, appear to considerable advantage. The average duration of a chancery suit ranged, in the different years, from 5 months and ·085 days to 6 months and ·118 days. The judges, in 1845, got through a suit in 5 months and ·043 days; but in 1847 and 1848, the duration of the suits ranged from 7 to nearly 8 months. The Principal Sudder Ameens varied in their expedition from 3 months and ·343 days, in 1845, to  $4\frac{3}{4}$  months, in 1847. The Sudder Ameens were quicker than any of the preceding courts, the duration of a suit ranging from 2 months and ·853 days, in 1848, to 3 months and ·480, in 1846; and these judges, unlike the same class in Bengal, did the greatest amount of work except the Moonsiffs. The speediest judges were the Moonsiffs, with the smallest per centage of appeals and reversals; the duration of a suit in these courts ranged from 2·692 months, in 1847, to 3·134 months, in 1845. The value of property litigated was very considerable. The highest court of appeal, the Sudder Adawlut, in four years passed judgment upon 670,417*l.*; and the amount before the lower courts was 4,048,907*l.*, including 349,298*l.* appealed, the total amount, therefore, being 4,719,304*l.* sterling. The total amount appealed was 1,019,715*l.*, or 21·6 per cent. of the whole amount upon which judgment was passed, a result favourable to the administration of civil justice, considering the facilities and cheapness of appeal in India.

The suits chiefly related to debt, 293,160, and next land, 65,091. The people would appear to live very amicably together with respect to religious matters, as in four years there were only 332 suits about polemics, caste, or endowments. Table IV. shows the number of suits determined in favour of the plaintiffs and defendants respectively, and the very great preponderance of decisions in favour of the plaintiffs indicates that their litigation was neither frivolous nor vexatious. As the population of the North-West Provinces, by the revised census of 1848, was 23,799,668, and the total number of suits in four years was 297,189, it follows there was one suit to 319 souls annually; and, as a family averages about  $4\frac{1}{2}$  souls, every 71 families had a law suit annually.



*Civil Justice, North-West Provinces, for 1845, 1846, 1847, and 1848.*

TABLE I.  
*Sudder Dewanny Adawlut.*

	Depend- ing 1st January.	Admitted.	Total.	Decided.				Otherwise Disposed of.				Grand Total Decided and otherwise Disposed of.	Depend- ing 31st December.
				Con- firmed.	Reversed.	Modified.	Total.	Returned.	Dismissed.	Adjusted.	Total.		
Regular Appeals, 1845	87	97	184	29	18	20	67	15	7	10	32	99	85
Ditto 1846	85	63	148	46	16	10	72	13	4	2	19	91	57
Ditto 1847	57	44	101	22	10	9	41	7	1	3	11	52	49
Ditto 1848	49	83	132	22	13	5	40	6	5	4	15	55	77
Special Appeals, 1845	46	128	174	33	32	7	72	68	2	...	70	142	32
Ditto 1846	32	103	135	21	22	6	49	51	...	...	51	100	35
Ditto 1847	35	163	198	30	17	11	58	96	4	...	100	158	40
Ditto 1848	40	133	173	33	16	8	57	90	...	...	90	147	26
Total .....	...	814	...	236	144	76	456	...	23	19	388	844	...

TABLE II.  
*Subordinate Courts.*

Num- ber of Judges.	Court.	Depending 1st January.	Admitted.	Received by Transfer from other Courts.	Trans- ferred to other Courts.	Disposed of.	Depend- ing 31st December.
<i>Judges.</i>							
19	1845 { Original	4	88	492	572	10	2
	{ Appeals	1,664	6,723	84	2,816	3,980	1,675
19	1846 { Original	2	63	880	936	3	6
	{ Appeals	1,675	6,520	99	2,548	3,900	1,856
19	1847 { Original	6	58	92	135	8	13
	{ Appeals	1,856	6,565	83	2,538	3,608	2,357
19	1848 { Original	13	71	548	612	11	9
	{ Appeals	2,357	7,058	75	3,181	3,977	2,332
Total .....		....	28,814	2,353	13,338	15,497	....
<i>Principal Sudder Ameens.</i>							
22	1845 { Original	975	2,254	1,045	221	3,026	1,027
	{ Appeals	610	....	2,946	148	2,809	599
22	1846 { Original	1,027	2,085	816	122	2,901	905
	{ Appeals	599	2	2,609	122	2,392	696
22	1847 { Original	905	2,006	1,183	152	2,621	1,321
	{ Appeals	696	....	2,686	126	2,559	697
22	1848 { Original	1,321	1,988	651	106	2,815	1,039
	{ Appeals	697	....	3,235	36	2,916	980
Total .....		....	9,920	15,171	1,033	22,039	....
<i>Sudder Ameens.</i>							
14	1845—Original	1,339	5,668	1,255	206	6,300	1,756
15	1846— Do.	1,756	5,272	1,353	193	6,347	1,841
15	1847— Do.	1,841	5,548	1,446	122	6,848	1,865
15	1848— Do.	1,865	5,306	1,229	126	6,683	1,591
Total .....		....	23,133	5,283	647	26,178	....
<i>Moonsiffs.</i>							
97	1845—Original	12,223	56,733	1,271	2,435	53,761	14,031
104	1846— Do.	14,031	53,075	2,557	3,724	53,001	12,938
99	1847— Do.	12,674	55,999	1,206	2,890	54,713	12,276
99	1848— Do.	12,276	53,395	1,387	2,185	52,562	12,311
Total .....		....	231,425	6,421	11,234	214,037	....

The above returns do not include the Hill Provinces, and there are some immaterial graphical or typographical errors in the number of suits depending.



TABLE III.  
*Appellate Jurisdiction over the several Tribunals.*

	Appealable.				Appealed.				Affirmed.				Modified or Reversed.			
	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.
Principal Sudder } Ameens .....	5,727	5,511	5,363	5,877	1,306	1,125	1,112	1,233	683	709	563	707	333	373	276	319
Sudder Ameens....	4,541	4,844	4,115	5,548	854	934	961	401	492	449	472	537	284	269	290	389
Moonsiffs .....	34,947	35,952	38,241	35,472	5,592	5,365	5,305	5,630	3,379	3,113	3,069	2,358	1,862	1,538	1,642	1,768
Judges .....	4,147	3,986	3,578	4,031	88	76	117	93	28	18	21	28	75	59	86	76

The Judges' cases are almost exclusively appeals, and the Sudder Adawlut only decides on appeals from the Judges.  
The above return includes the Hill States.

TABLE IV.  
*Results of Original Suits Decided on Trial.*

	In favour of Plaintiffs.				In favour of Defendants.				Total.			
	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.
Before Judges .....	7	....	2	3	2	2	4	7	9	2	6	10
Before Principal Sudder Ameens	1,681	1,639	1,492	1,581	667	689	632	627	2,348	2,328	2,124	2,208
Before Sudder Ameens .....	2,951	3,120	3,251	3,354	810	985	980	932	3,761	4,105	4,231	4,286
Before Moonsiffs .....	28,790	28,908	30,403	27,361	5,681	6,435	6,411	7,486	34,471	35,343	36,816	34,847

TABLE V.  
*Description of Original Suits.*

	Relating to Land.	Relating to Debt, Silk, &c.	Relating to Indigo, Sugar, Silk, &c.	Relating to Religion.
1845.....	17,253	46,680	755	55
1846.....	16,745	43,148	707	92
1847.....	15,270	51,966	878	81
1848.....	15,823	51,466	756	104
Total.....	65,091	193,260	3,096	332

TABLE VI.  
*Average Duration of a Suit.*

	Disposed of during the Year.				Depending at the end of the Year.				Average Duration.			
	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.
Sudder Dewanny Adawlut	241	191	210	202	117	92	89	103	Ms. Dys. 5·835	Ms. Dys. 5·085	Ms. Dys. 5·085	Ms. Dys. 6·118
Zillah Judges.....	3,990	3,903	3,616	3,988	1,677	1,862	2,370	2,341	5·043	5·724	7·865	7·044
Principal Sudder Ameens	5,835	5,293	5,180	5,731	1,626	1,601	2,018	2,019	3·343	3·629	4·674	4·227
Sudder Ameens.....	6,300	6,347	6,848	6,683	1,756	1,841	1,865	1,591	3·344	3·480	3·268	2·856
Moonsiffs .....	53,761	53,001	54,276	52,562	14,041	13,011	12,276	12,311	3·134	2·943	2·692	2·810



TABLE VII.  
*Value of Property under Litigation at the Close of the Year.*

	Original Suits.				Appeals.				Total.			
	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.	1845.	1846.	1847.	1848.
Sudder Dewanny Adawlut . . . . }	..	..	..	..	2,683,988	1,405,681	1,241,089	1,373,419	2,683,988	1,405,681	1,241,089	1,373,419
Judges, &c., &c. . .	4,450,449	4,045,545	8,121,363	20,378,717	724,799	692,728	997,160	1,078,295	5,175,246	4,738,273	9,118,543	21,457,012
Total . . . .	..	..	..	..	3,408,787	2,098,409	2,238,249	2,451,714	7,859,236	6,143,954	10,359,630	22,830,431

TABLE VIII.  
*Value of Appeals before the Sudder Dewanny Adawlut.*

	To 300 Rupees.		To 1,000 Rupees.		To 5,000 Rupees.		To 10,000 Rupees.		Exceeding 10,000 Rupees.		Total Value.
	Number of Appeals.	Value, Rupees.	Number of Appeals.	Value, Rupees.	Number of Appeals.	Value, Rupees.	Number of Appeals.	Value, Rupees.	Number of Appeals.	Value, Rupees.	Rupees.
1845 .....	21	2,228	9	5,917	15	39,190	29	210,594	43	24,26,059	26,83,988
1846 .....	15	1,551	15	9,344	14	44,212	27	216,042	21	11,34,532	14,05,681
1847 .....	19	2,571	18	11,792	12	29,679	20	162,831	20	10,34,208	12,41,089
1848 .....	17	2,509	10	7,355	18	41,447	31	248,102	27	10,74,006	13,73,419

*Administration of Civil Justice under the Madras Government for the Years 1847, 1848, 1849, and 1850, both inclusive.*

In drawing up the following tables I have been somewhat embarrassed, in consequence of the official returns from Madras, for 1847, differing very essentially in the forms of the tables from those of the three succeeding years. The returns for 1847 are probably equally correct with those for 1848-9 and 50, the last date for which returns have been transmitted; but the courts, facts and details, have a classification which does not admit of rigid comparison with the facts and details of the succeeding years. This observation is called for to explain some discrepancies, which can scarcely result from either clerical or typographical errors or omissions.

Table I. contains the numbers of the original and appeal suits for four years before all the courts; but the returns do not distinguish the suits depending, at the commencement of each year, from those instituted within each year. The total number of suits is 571,515, but this great number is swollen by the labours of a class of functionaries which does not exist under the other governments, namely, the village Moonsiffs, who had 46,609 petty suits; but deducting this amount there remain 524,906, exceeding, by nearly 150,000, the numbers under the other governments of India. The Sudder Adawlut determined 301 suits, a scarcely appreciable per centage, 0·05, of the total number; but these, of course, were appeals, and involving great amounts; and of the total number of suits actually decided, the Sudder Courts' per centage of work was 0·08.

	Total Number of Suits before all the Courts.	Decided by each Court in Four Years.	Per Centage of the Suits actually Decided.	One Suit Annually to Souls.	One Suit to Families.
Sudder Adawlut .....		301	0·08		
Judges .....		8,810	2·39		
Assistant Judges and Principal Sudder Ameens .....		17,780	4·83		
Sudder Ameens .....		41,432	11·30		
District Moonsiffs .....		253,026	68·70		
Village Moonsiffs .....		46,609	12·70		
Punchaets .....		120	0·04		
Total .....	571,515	368,088	100·00	156	35

The above table shows that the European judges, with the assistance of the Principal Sudder Ameens, performed 7·3 per cent. of the whole work; and the native judges 92·7 per cent.

Table I. exhibits two notable features, the very great number of suits, 78,885, dismissed for default, and the still more considerable number, 109,293, adjusted by mutual agreement. The first would indicate frivolous litigation, and the latter a commendable spirit of accommodation with opponents.

The following table gives the appeals and their results :—



	Appealable Suits.	Appealed.	Per Centage Appealed.	Reversed or Modified.	Per Centage of Appeals Reversed or Modified.	Per Centage of Reversals of Total Appealable Suits.
Sudder Adawlut	....	575	....	48	8·3	....
Judges	126	49	38·8	7	14·3	5·5
Subordinate Judges and Principal Sudder Ameens	5,551	1,276	22·9	350	27·4	6·3
Sudder Ameens	16,770	3,620	21·6	1,258	34·7	7·4
District Moonsiffs	46,140	6,066	13·1	1,511	24·9	3·3
Total	68,587	11,586	16·8	3,174	27·39	4·62

As might be anticipated, the greatest per centage of cases appealed from the amounts at stake is from the decisions of the European judges in original suits; but they have the smallest per centage of reversals, 14·3, except the Sudder Adawlut, 8·03; but the per centage of the reversals to the total appealable cases, 5·5, is greater than that of the Moonsiffs. It would appear that the lowest per centage of appeals, 13·1, is from the Moonsiffs' decisions; and as they decided 153,185 suits under the value of 10*l.*, or 100 rupees, this paucity of appeals is a natural result, but it is very creditable to them, that only 3·3 per cent. of their judgments were reversed of all their appealable cases. The per centage of suits appealed gradually increases in each court up to the judges, when it is at its maximum, 38·8 per cent. The greatest number of appealed cases reversed, 34·7, is in the Sudder Ameens' Courts, whose chief decisions were in suits for less than 20*l.* The per centage of reversals of all the courts upon all the *appealable* suits was little more than 4½ per cent.

From the Madras returns for 1848-9 and 50, I am enabled to give a curious table of the number of suits before each class of courts for the different amounts between certain fixed sums. It requires to be inspected to be understood, and it will repay the labour. The great mass of litigation is for amounts under 10*l.*; and there were only sixteen suits in those three years, before the highest court, the Sudder Adawlut, for amounts exceeding 1000*l.* The civil judges in the same period had seventy-eight suits above 1,000*l.*, and they did not try any suit below 50*l.*

The duration of suits, as will be seen from Table III., was reduced by the Sudder Court from one year eight months and three days, in 1847, to eleven months in 1850. The civil judges appear to have taken more time for their decisions than the Sudder. The Sudder Ameens got through their work faster than the other judges; and the district Moonsiffs take a much longer time (about six months) than under the other governments of India. The suits depending above two years in the different courts are comparatively few in relation to the whole number of suits, but they are greater than they ought to be; and considering that the mean duration of a suit in the District Moonsiffs' Court is about six months, the annual recurrence of nearly 2,000 cases, which have been upon the file above two years, requires explanation. The very great proportion of decisions in favour of plaintiffs shews that litigation was not vexatious nor frivolous.

The chief subjects in dispute were upon bonds, simple debts, and land.

The population under the Madras government, by the census of 1850-51, is stated to be 22,301,697, which will give about one suit annually to 156 souls, or one to nearly 35 families.

TABLE I.  
*Suits before the several Courts.*

	Decided on the Merits.									
	On the File 1st of January, and Instituted.					On Trial, wholly or in part.				
	1847.	1848.	1849.	1850.		1847.	1848.	1849.	1850.	
Sudder Adawlut Judges .....	166	160	144	105		19	80	87	52	
Agencies .....	1,686	6,130	5,012	5,896		16	1,482	1,705	1,872	
Assistant Judges and Principal Sudder Amcens* .....	4,984	8,354	9,640	10,273		1,505	2,020	2,389	2,504	
Sudder Amcens .....	16,023	18,167	18,735	20,322		4,636	4,068	4,425	4,929	
District Moonsiffs .....	113,680	116,016	85,992	83,150		25,171	22,881	21,573	21,470	
Village Moonsiffs .....	9,246	10,303	12,328	14,732		2,341	2,556	2,862	3,588	
Punchaect District .....	47	33	24	21		6	5	2	3	
Punchaect Village .....	31	35	45	35		14	8	13	7	
Total .....	145,863	159,198	131,920	134,534						
	In Arrear 31st December.									
	On Trial, Dismissed on Default.					On Trial, Dismissed or Referred.				
	1847.	1848.	1849.	1850.		1847.	1848.	1849.	1850.	
Sudder Adawlut Judges .....	3	...	...	...		3	2	1	2	
Agencies .....	459	804	749	1,236		459	78	84	77	
Assistant Judges and Principal Sudder Amcens* .....	...	...	...	...		...	...	...	...	
Sudder Amcens .....	552	...	607	1,834		552	721	1,014	...	
District Moonsiffs .....	2,510	...	425	2,449		2,510	2,598	2,830	931	
Village Moonsiffs .....	21,185	...	8,899	12,630		21,185	25,905	8,038	2,625	
Punchaect District .....	1,653	534	...	...		1,653	1,865	2,268	3,190	
Punchaect Village .....	9	...	...	...		9	6	6	4	
Total .....	21,368	...	...	...		21,368	31,181	14,246	7,090	
	Total Decided.									
	Adjusted.					Total Decided.				
	1847.	1848.	1849.	1850.		1847.	1848.	1849.	1850.	
Sudder Adawlut Judges .....	...	6	...	...		...	...	...	...	
Agencies .....	544	1,230	1,342	1,261		544	1,261	1,104	1,494	
Assistant Judges and Principal Sudder Amcens* .....	1,615	3,286	3,424	3,185		1,615	3,185	2,550	2,838	
Sudder Amcens .....	19,347	26,421	17,060	17,041		19,347	26,421	21,573	21,470	
District Moonsiffs .....	2,249	3,234	3,573	4,132		2,249	3,234	3,588	3,588	
Village Moonsiffs .....	4	3	3	2		4	3	2	3	
Punchaect District .....	3	5	6	4		3	5	4	4	
Punchaect Village .....	...	...	...	...		...	...	...	...	
Total .....	23,768	34,271	25,483	25,771		23,768	34,271	25,483	25,771	

Besides the ordinary work, a great amount of labour is bestowed upon miscellaneous matters, deciding upon Petitions, application for Decrees, &c.

\* Includes Principal Sudder Amcens.

In the Appellate Courts the numbers include the appealed cases.

In 1848 the causes of dismissal were not distinguished in the returns.

Owing to the returns for 1847 being in different forms from those of following years, the balances are not in exact accord.



TABLE II.  
*Appeals and their Results from*

District Moonsiffs.										Sudder Ameens.			
	Number of Appealable Decrees passed within the Year.	Number Appealed within the Year.	Affirmed by the Appellate Court.	Reversed or Modified by Appellate Court.	Remanded by the Appellate Court.	Otherwise Disposed of.	Number of Appealable Decrees passed within the Year.	Number Appealed.	Affirmed.	Reversed or Modified.	Remanded.	Otherwise Disposed of.	
1847 ...	10,728	1,396	669	435	...	96	3,358	613	367	327	...	...	
1848 ...	12,160	1,461	678	312	165	96	4,058	869	437	307	86	42	
1849 ...	11,381	1,428	763	373	214	74	4,425	986	440	298	123	60	
1850 ...	11,871	1,781	800	391	219	93	4,929	1,152	462	326	107	65	
Total...	46,140	6,066	2,910	1,511			16,770	3,620	1,706	1,258			

Subordinate Judges and Principal Sudder Ameens.							Judges.				Sudder Adawlut.							
	Number of Appealable Decrees passed within the Year.	Number Ap- pealed.	Affirmed.	Re- versed or Modi- fied.	Re- manded.	Other- wise Dis- posed of.	Number of Appealable Decrees passed within the Year.	Number Ap- pealed.	Affirmed.	Re- versed or Modi- fied.	Re- manded.	Other- wise Dis- posed of.	Number of Appeals.	Affirmed.	Re- versed or Modi- fied.	Re- manded.	Other- wise Dis- posed of.	Total.
1847 ...	1,045	229	118	90	...	...	14	4	...	...	...	...	166	16	3	49	3	71
1848 ...	1,311	289	152	55	29	32	36	12	5	...	...	3	160	...	...	...	...	80
1849 ...	1,495	337	190	104	50	18	31	17	13	...	...	6	144	29	36	22	...	87
1850 ...	1,700	421	169	101	32	28	45	16	4	3	1	2	105	12	9	31	...	52
Total...	5,551	1,276	629	350			126	49		7			575		48			290

TABLE III.  
Suits Pending in the different Courts, Original and Appeal.

Suits Pending in the different Courts, Original and Appeal.																			
1847.					1848.				1849.				1850.				1851.		
Under One Year.	Under Two Years.	Above Two Years.	Total.	Under One Year.	Under Two Years.	Above Two Years.	Total.	Under One Year.	Under Two Years.	Above Two Years.	Total.	Under One Year.	Under Two Years.	Above Two Years.	Total.	Under One Year.	Under Two Years.	Above Two Years.	Total.
33	38	24	95	31	24	22	77	32	13	6	51	26	19	6	51	...	...	...	...
...	...	...	337	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1,300	350	96	1,746	1,634	400	141	2,175	1,806	481	117	2,404	2,038	477	110	2,625	...	...	...	...
...	...	...	268	...	...	...	...	1,132	507	223	1,862	1,052	355	119	1,526	...	...	...	...
8,115	1,161	198	9,474	...	...	...	...	1,516	595	215	2,426	1,644	661	188	2,493	...	...	...	...
...	...	...	...	5,987	1,678	204	7,869	5,679	1,408	544	7,631	6,821	1,644	363	8,828	...	...	...	...
...	...	...	43,012	29,614	7,753	1,109	38,476	22,870	5,730	1,843	30,442	23,343	4,071	2,070	29,484	...	...	...	...
...	...	...	...	2,095	329	223	2,647	2,921	458	246	3,625	3,204	430	138	3,772	...	...	...	...
...	...	...	13	6	1	9	16	8	5	8	21	8	3	9	20	...	...	...	...
...	...	...	27	5	7	7	19	3	2	8	13	5	2	5	12	...	...	...	...

Average Duration of Original Suits.																	Gross Value of all Suits Decided.											
1847.			1848.			1849.			1850.			1851.			1847.			1848.			1849.			1850.			1851.	
Yrs.	Ms.	Dys.	Yrs.	Ms.	Dys.	Yrs.	Ms.	Dys.	Yrs.	Ms.	Dys.	Yrs.	Ms.	Dys.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.		
1	8	3	1	6	26	1	6	9	0	11	0	...	...	...	22,864	0	0	19,371	0	0	213,541	0	0	...	...			
0	8	3	...	...	...	...	...	...	1	10	0†	...	...	...	71,320	0	0	82,216	0	0	73,536	0	0	...	...			
1	0	29	1	0	19†	1	5	5	1	10	0†	...	...	...	...	...	...	39,568	0	0	45,075	0	0	...	...			
...	...	...	...	...	...	1	2	24	1	1	29	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
0	8	0	0	0	0	0	10	28	0	11	24	...	...	...	...	...	...	69,403	0	0	46,464	0	0	...	...			
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
0	5	22	0	7	23	0	7	0	0	5	24	...	...	...	85,833	0	0	89,854	0	0	93,099	0	0	...	...			
0	6	6	0	6	8	0	7	3	0	6	16	...	...	...	238,220	0	0	173,902	0	0	187,650	0	0	...	...			
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4,173	0	0	4,530	0	0	...	...	...	...	...			
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	930	0	0	517	0	0	...	...	...	...	...			
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	167	0	0	44	0	0	146	0	0	...	...			

\* Appeals only.

† For Original Suits. Appeals 11·2 and 11 months.

‡ Appeals 1 2 28.

§ No Appeals decided.

|| Ditto.

\* Appeals only.

† For Original Suits. Appeals 11-2 and 11 months.

‡ Appeals 1 2 28.

§ No Appeals decided.

|| Ditto.



TABLE IV.  
*Character of Litigation.*

	Total Number of Original Suits.	For Plaintiffs.	For Defendants.	Total Number of Appeals Dececd.	For Appellants.	For Respondents.
1847.....	97,381	....	....	....	....	....
1848.....	36,531	26,505	10,026	2,221	940	1,281
1849.....	27,524	23,426	4,098	2,568	1,165	1,403
1850.....	31,742	27,444	4,298	2,621	1,178	1,443
1851.....						

TABLE V.  
*Showing the Nature of the Litigation.*

	For Land.		For Houses or other Fixed Property.		Arrears of Rent or Revenue.		Bonds.		Simple Debts.		Damages.		Allowances and other Personalities.		Total.	
	Num- ber of Suits.	Amount.	Num- ber of Suits.	Amount.	Num- ber of Suits.	Amount.	Num- ber of Suits.	Amount.	Num- ber of Suits.	Amount.	Num- ber of Suits.	Amount.	Num- ber of Suits.	Amount.	Num- ber of Suits.	Amount.
1847	21,328	Rupees. 8,61,587	..	Rupees. ..	34,332	Rupees. 1,57,002	..	Rupees. ..	87,096	Rupees. 1,140,379	..	Rupees. ..	1,30,651	Rupees. 35,28,645	..	Rupees. 56,90,615
1848	5,434	8,70,935	1,585	2,40,302	1,097	1,32,188	61,509	32,45,553	16,489	5,22,703	402	79,313	6,725	4,73,135	93,241	55,64,129
1849	4,502	7,23,406	1,503	1,43,719	854	66,786	45,768	29,07,992	11,235	4,96,339	317	52,441	6,255	3,24,088	70,434	67,14,835
1850	4,742	9,71,473	1,605	2,27,592	1,239	86,931	50,756	32,26,613	13,306	4,86,559	755	56,959	5,994	4,25,868	78,427	54,82,053
1851																

N.B.—For 1847 the number of Plaintiffs and Defendants is given, and not the number of Suits.

TABLE VI.  
*Value of Property in Litigation before the different Courts.*

	Under 100 Rupees.	100 to 200.	200 to 300.	300 to 400.	400 to 500.	500 to 1,000.	1,000 to 2,500.	1,000 to 5,000.	5,000 to 10,000.	10,000 and upwards.	Gross Value of Suits Disposed of during the Year.	Pending at the Close of the Year.
											Rupees.	Rupees.
Village Mooniffs	1847..... 1848..... 1849..... 1850.....	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... 41,735 4,15,304 60,112	.... 22,845 21,072 22,416
District Mooniffs	1847..... 1848..... 1849..... 1850.....	.... 4,896 4,887 4,657	.... 997 1,032 847	.... 297 273 257	.... 166 145 178	.... 299 264 318	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... 23,82,200 17,39,020 18,76,500	.... 16,30,283 15,00,801 15,58,040
Sudder Ameens.	1847..... 1848..... 1849..... 1850.....	.... 7,084 8,052 8,057	.... 389 442 532	.... 132 175 170	.... 66 98 82	.... 149 249 224	.... 123 171 176	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... 8,58,336 8,98,548 9,30,992	.... 10,91,910 10,93,521 12,15,452
Subordinate Judges, Principal Sud- der Ameens, and Agencies.	1847..... 1848..... 1849..... 1850.....	.... 2,107 2,827 3,003	.... 232 418 270	.... 69 125 116	.... 74 125 94	.... 148 194 226	.... .... .... ....	.... 156 190 210	.... 31 43 28	.... .... .... ....	.... 9,10,257 8,07,003 9,15,403	.... 14,09,353 14,89,244 14,65,430
Civil Judges.	1847..... 1848..... 1849..... 1850.....	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... 1,500 1,714 1,955	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... 7,55,619 8,22,169 7,35,360	.... 26,55,868 21,74,392 23,63,530
Sudder Adawlut.	1847..... 1848..... 1849..... 1850.....	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... 71 65 32	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... .... .... ....	.... 2,28,643 1,93,712 21,35,416	.... 5,92,213 24,59,653 6,01,542



*The Administration of Civil Justice under the Bombay Government,  
from the Years 1845 to 1848, both inclusive.*

The total number of original suits instituted before all the courts, European and native, in four years, inclusive of 9,076 depending on the 1st January, 1845, and 918 of the Colaba State omitted in 1845, was 330,865, of these 194,354 were decided on the merits, 17,895 were dismissed, 15,003 were dismissed on default, and may therefore be looked upon as possibly frivolous and vexatious; and most creditably to the parties concerned, no less than 85,218 suits were adjusted by mutual agreement; and 5,436 were transferred from one court to another. The total decided, therefore, was 317,906. To these are to be added 18,852 appeals, making 336,968, besides 211 of the Sudder Adawlut, but leaving in arrears 12,959, which did not differ much from preceding years; so that the current business of each year was got through.

	Total Number of Suits in Four Years Decided, including Appeals.	Total Number Decided by each Court, including Appeals.	Per Centage of Work done by each Court of the Cases Decided.	Or one Case in.
Sudder Adawlut .....		211	0·06	1597
European Judges .....		21,701	6·40	15½
Principal Sudder Ameens...		21,859	6·50	15·0
Sudder Ameens .....		54,835	16·30	6·1
Moonsiffs.....		238,109	70·67	1·4
Punchaects .....		253	0·07	1376
Total .....	336,968*	336,968	100·00	

\* There is an omission of one suit.

From the above table it would appear, that the European judges did about  $6\frac{1}{2}$  per cent. of the whole work, their administration being almost entirely appellate. The native judges performed the remaining  $93\frac{1}{2}$  per cent. of the whole work. The Sudder Adawlut had only one appeal made to it in every 1,597 cases decided on by the lower courts;  $70\frac{3}{4}$  per cent. of the whole work was done by the Moonsiffs;  $16\frac{1}{3}$  per cent. by the Sudder Ameens; and  $6\frac{1}{2}$  per cent. by the Principal Sudder Ameens; and of this work 680 were cases of appeal. The original suits disposed of by the judges were only 92, and by the assistant judges, 172; but the agent for Jaghirdars, and his assistants, decided 3,265 original suits, besides 179 appeal cases. The Punchaects were scarcely operative.

In the matter of appeals, the total number appealed in four years was 21,021, independently of 211 before the Sudder Court; and, as 2,169 remained undecided at the end of the period, 18,852 is

the number appealed upon 317,906 suits disposed of, or 5·9 per cent.—16,768 were decided, 711 dismissed on default, and 553 adjusted, and 820 were transferred to other files,—2,341 were appealed in four years from decrees of the European judges and assistant judges; and as these parties decided only 3,529 original cases, if the figures be right, no less than 66·3 per cent. of their decisions were appealed, while, of the 314,376 suits decided by native judges, only 17,042 were appealed, or 5·4 per cent.

The following table exhibits the appellate jurisdiction over the several courts, but does not give the appellate cases of the total number of suits decided, nor does it give the appeals from each court separately, as at the other Presidencies.

	Suits Decided.	Appeals Decided.	Per Centage Appealed.	Reversed or Modified.	Per Centage of Appealed Cases Reversed or Modified.	Per Centage of Reversed or Modified Suits to all Suits Decided.
Sudder Adawlut .....	...	211	...	103	48·8	0·03
Judges .....	...	...	...	...	...	...
Assistant Judges .....	...	1,937	...	614	31·7	0·18
Principal Sudder Ameens, Sudder Ameens, and Moonsiffs .....	...	14,831	...	6,380	43·0	1·90
Total.....	317,906	18,852	5·9			

The official tables not giving the appeals against each class of judges, the per centage results in the above table are necessarily incomplete.

The aggregate value of the property in dispute in the original suits was 2,114,334*l.*; and in the appealed suits before the Sudder Court, 62,852*l.* 151,412, or about one-half of all the original suits were for amounts under one pound, and of these 4,484 were appealed, or 2·9 per cent., while for original amounts above 1000*l.* there were only 188, and of these 51 were appealed, or 27·6 per cent. In the whole four years there was only one person in jail for arrears of land tax due to government.

The census of 1851 gave the population of the whole Bombay Presidency, inclusive of the city of Bombay, at 9,015,534 souls, which would give one suit to every  $26\frac{3}{4}$  souls, or less than six families, so that British subjects under Bombay must have an unexampled passion for litigation. 151,412 were for suits under one pound sterling.



Civil Justice, Bombay, for 1845 to 1848, inclusive.

TABLE I.

## Statement of Original Suits on the File of the Adawlut Courts.

	Disposed of.										By European Agents.	
	On the File at the Commence- ment of the Period.	Instituted during the Period.	Total.	On Trial.		Dismissed on Default.	Adjusted.	Trans-ferred to another File.	Total.	By the Judges.	By Assistant Judges.	
				Decreed wholly or in part.	Dismissed.							
1845 ..	9,076	77,062	86,138	46,245	3,522	3,665	20,151	640	74,223	10	771	
1846 ..	12,834	83,858	96,692	48,166	3,804	3,666	22,470	1,398	79,504	10	855	
1847 ..	17,188	80,984	98,172	51,245	5,652	3,874	22,120	2,449	85,340	15	888	
1848 ..	12,832	78,966	91,798	48,698	4,917	3,798	20,477	949	78,839	57	751	
Total..	51,930	320,870	330,865	194,354	17,895	15,003	85,218	5,436	317,906	92	3,265	
	By Native Agents.				Total Number Decided.	In Arrears at the end of the Period.	Total Disposed of and in Arrears.	Aggregate Value of Suits Decided.	Number of Cases on the File for One Year and under.	From One to Two Years.	For any Period beyond Two Years.	
	By 6 Princi- pal Sudder Ameens.	By 14 Sudder Ameens.	By 66 Moonsiffs.	By Punchaect.								
	1845 ..	4,399	12,692	56,229	86	74,223	11,915	86,138	Rupees. 39,54,619	11,668	192	55
	1846 ..	4,774	13,755	60,019	70	79,504	17,188	96,692	40,01,849	16,735	373	80
1847 ..	6,494	14,649	63,178	48	85,340	12,832	98,172	42,43,187	12,379	371	82	
1848 ..	5,512	13,739	58,683	49	78,839	12,959	91,798	89,43,691	12,569	290	100	
Total..	21,179	54,835	238,109	253	317,906	12,959	330,865	2,11,43,346				

In 1846 the cases pending in the Colaba State were carried forward for the first time, 918; and the 9,076 pending in 1845 should have been increased by that number. In the Decisions upon the Merits 19 Jaghirdars have jurisdiction.

In 1846 the cases pending in the Colaba State were carried forward for the first time, 918; and the 9,076 pending in 1845 should have been increased by that number. In the Decisions upon the Merits 19 Jaghirdars have jurisdiction.

TABLE II.  
Statement of Appeals to the Zillah Authorities from the Decrees of the Assistant Judges of the Assistant Agent at Poonah and of Native Functionaries.

	On the File at the Commencement of the Period.	Preferred during the Period from Decrees of		Total.	Decided.				Appeals from the Assistant Judges.			Appeals from the Native Functionaries and Punctaets.			Total.
		European Functionaries.	Native Functionaries.		On Trial.	Ad-justed.	Trans-ferred to other Files.	Total.	Con-firmed.	Amended.	Reversed.	Con-firmed.	Amended.	Reversed.	
1845...	1,638	579	4,011	6,248	3,335	90	104	221	3,750	147	14	1,678	423	1,007	3,335
1846...	2,498	355	3,954	6,787	2,841	153	137	326	3,457	339	27	1,332	262	866	2,841
1847...	3,330	604	4,668	8,602	5,114	267	154	76	5,611	332	34	2,724	397	1,500	5,114
1848...	2,991	803	4,409	8,203	5,478	201	158	197	6,034	505	40	2,817	401	1,524	5,478
Total...	...	2,341	17,042	21,021	16,768	711	553	820	18,852	1,323	115	8,451	1,483	4,897	16,768

	Of these Decided by the Judge.	Of these Decided by the Agents.	Of these Decided by the Senior Assistants and Assistant Judges.	Of these Decided by the Principal Sudder Ameens.	Total Disposed of during the Period.	On the File at the end of the Period.	Total.	Appeals on the File under One Year.	For One Year and Upwards.
1845...	1,112	10	2,415	213	3,750	2,498	6,248	2,251	247
1846...	1,815	28	1,466	148	3,457	3,330	6,787	2,705	625
1847...	2,484	56	2,862	209	5,611	2,991	8,602	2,827	164
1848...	2,701	85	3,138	110	6,034	2,169	8,203	1,846	323
Total...	8,112	179	9,881	680	18,852	...	29,840	...	...



Statement of Appeals to the Sudder Dewanny Adawlut.

	On the File at the Commence-ment of the Period.	Referred within the Period.	Total.	Decided.			Confirmed.	Amended.	Reversed.	Settled by Arbitration.	On the File at the end of the Period.	On the File under one Year.	On the File one Year and upwards.	Aggregate Value of the Appeals Decided.	
				On Trial.	Dismissed on Default.	Adjusted.								R.	A. P.
1845 ....	79	65	144	33	...	...	9	6	18	...	111	65	46	1,66,913	5 6
1846 ....	111	84	195	15	...	1	10	...	5	1	179	82	97	1,41,020	15 8
1847 ....	179	76	255	41	5	2	27	3	11	2	207	75	132	2,02,535	0 0
1848 ....	207	101	308	102	10	2	42	3	57	2	194	100	94	1,24,061	0 0
Total....	...	326	405	191	15	5	88	12	91	5	194	100	94	6,28,529	0 0

TABLE IV.

Statement of the Number and Description of Plaintiffs and Defendants in Suit, and of Debtors in Jail, at the Instance of Individuals and for Arrears of Revenue to Government.

	Plaintiffs.				Defendants.			Civil Debtors in Jail at the end of the Period.				
	Zemindars.	Ryots.	Miscellaneous.	Total.	Zeminders.	Ryots.	Miscellaneous.	At the instance of Individuals.	Amount of Debts.	For Arrears of Revenue at the instance of Government.	Amount of Arrears.	Total Number in Jail.
1845 .....	4,254	25,462	37,537		20,390	22,957	40,421	171	R. 2,90,690	A. 9	P. 10	172
1846 .....	4,727	18,309	46,190		16,116	22,781	44,754	157	51,785	2	7	157
1847 .....	5,646	17,554	52,716		16,543	23,156	50,169	176	18,889	0	0	176
1848 .....	6,586	17,343	48,391		16,649	22,005	46,511	195	34,654	0	0	195
Total ....	21,213	78,668	184,834		69,698	90,899	181,855	699				

TABLE V.  
*Abstract of Value of Appeals to the Zillah Judges, &c.*

	Under 10 Rupees.	Under 50 Rupees.	Under 100 Rupees.	Under 200 Rupees.	Under 500 Rupees.	Under 1,000 Rupees.	Under 10,000 Rupees.	Total.
1845 .....	1,070	2,853	975	727	332	138	13	6,248
1846 .....	1,207	3,155	1,058	718	368	134	8	6,787
1847 .....	1,646	3,716	1,419	921	514	186	13	8,602
1848 .....	1,561	3,738	1,260	816	449	162	17	8,203
Total ....	4,484	13,462	4,712	3,176	1,663	620	51	29,840

TABLE VI.  
*Abstract of Value of Original Suits.*

	Under 10 Rupees.	Under 50 Rupees.	Under 100 Rupees.	Under 200 Rupees.	Under 500 Rupees.	Under 1,000 Rupees.	Under 10,000 Rupees.	Total.
1845 .....	36,708	37,781	5,899	3,273	1,563	462	36	86,138
1846 .....	38,773	44,503	6,870	3,833	1,767	452	48	96,692
1847 .....	39,130	45,378	6,934	3,816	1,851	540	50	98,172
1848 .....	36,801	42,191	6,517	3,559	1,658	480	46	91,798
Total ....	151,412	169,853	26,220	14,481	6,839	1,934	188	372,800



## SUMMARY.

To give a compendious view of the results under the Four Governments, and to facilitate comparison, they are placed in juxtaposition.

Tribunals.	Bengal.			North-West Provinces.			Madras.			Bombay.		
	Number of Cases Decided in Four Years.	Per Centage of whole work done.	Or One Suit in	Number of Cases Decided in Four Years.	Per Centage of whole work done.	Or One Suit in	Number of Cases Decided in Four Years.	Per Centage of whole work done.	Or One Suit in	Number of Cases Decided in Four Years.	Per Centage of whole work done.	Or One Suit in
Sudder Adawlut ...	1,785	0·41	242	844	0·31	330	301	0·08	1223	211	0·06	1597
Zillah and City Judges .....	13,119	3·04	33	15,497	5·56	11·5	8,810	2·39	41·7	21,701	6·40	15½
Assistant Judges and Principal Sudder Ameens	...	...	...	...	...	...	17,780	4·83	20·7	21,859	6·50	15
Principal Sudder Ameens .....	34,999	8·11	12·3	22,039	7·90	12·6	...	...	...	54,835	16·30	6·1
Sudder Ameens ...	8,314	1·92	52·0	26,178	9·40	10·6	41,432	11·30	8·8	...	...	...
Moonsiffs .....	373,462	86·52	1·1	214,037	76·83	1·3	253,026	68·70	1·6	238,109	70·67	1·4
Village Moonsiffs...	...	...	...	...	...	...	46,609	12·70	7·9	...	...	...
Punchaects .....	...	...	...	...	...	...	130	0·04	...	253	0·07	1376
Total .....	431,679	100·00	...	278,595	100·00	...	368,088	100·00	...	336,968	100·00	...

SUMMARY.—Continued.  
*Number of Suits annually to Population and Families.*

Bengal.			North-West Provinces.			Madras.			Bombay.		
Estimated Population.	One Suit per Head.	One Suit to Families.	Population by Census.	One Suit to Souls.	One Suit to Families.	Population by Census.	One Suit to Souls.	One Suit to Families.	Population by Census.	One Suit to Souls.	One Suit to Families.
36,848,981	341	75 $\frac{3}{4}$	23,199,668	319	71	22,301,697	156	35	9,015,534	26 $\frac{3}{4}$	6

*Number of Judges as the same stood in 1852.*

	Bengal.	North-West Provinces.*	Madras.	Bombay.	Total.
Sudder Dewanny Adawlut .....	5	3	4	4	16
Zillah Judges .....	25	21	20	10	76
Assistant Judges .....	4	1	9	7	21
Principal Sudder Ameens .....	32	21	6	5	64
Sudder Ameens .....	14	21	33	13	81
Moonsiffs .....	234	106	89	64	493
Total .....	314	173	161	103	751

\* Exclusive of the Hill States.



## North-West Provinces.

## Bengal.

Tribunals.	Number of Suits Appealable in Four Years.	Number Appealed in Four Years.	Number Reversed or Modified.	Per Centage Appealed.	Per Centage Reversed or Modified.	Per Centage Reversed to Total Appealable Cases.	Number of Appealable Suits in Four Years.	Number Appealed in Four Years.	Number Reversed or Modified.	Per Centage Appealed.	Per Centage Reversed or Modified.	Per Centage Reversed to Total Appealable Suits.
Sudder Adawlut .....	...	3,428	337	...	9.8	...	...	844	220	...	26.0	...
Zillah Judges* .....	...	1,080	142	...	13.2	...	15,742	374	296	2.3	79.1	1.9
Subordinate Judges and Princl. Sudder Ameens	...	...	...	...	...	...	...	...	...	...	...	...
Principal Sudder Ameens	28,520	3,669	1,271	12.8	34.6	4.4	22,478	4,776	1,301	21.2	27.2	5.8
Sudder Ameens .....	6,057	2,301	797	37.9	34.5	13.1	19,098	3,150	1,232	16.4	39.1	6.4
Moonsiffs .....	230,482	34,964	11,207	15.1	32.0	4.9	144,612	21,892	6,810	15.1	31.1	4.7
Total .....	265,059	45,442	13,754	17.14	30.26	5.18	201,930	31,036	9,859	14.95	31.90	4.77

## Bombay.

## Madras.

Tribunals.	Number of Appealable Suits in Four Years.	Number Appealed in Four Years.	Number Reversed or Modified.	Per Centage Appealed.	Per Centage Reversed or Modified.	Per Centage Reversed to Total Appealable Suits.	Number of Appealable Suits in Four Years.	Number Appealed in Four Years.	Number Reversed or Modified.	Per Centage Appealed.	Per Centage Reversed or Modified.	Per Centage Reversed to Total Appealable Cases.
Sudder Adawlut .....	...	575	48	...	8.3	...	...	211	103	...	48.8	...
Zillah Judges .....	126	49	7	38.8	14.3	5.5	...	...	...	...	...	...
Subordinate Judges and Princl. Sudder Ameens	5,551	1,276	350	22.9	27.4	6.3	...	1,937	614	...	31.7	...
Principal Sudder Ameens	...	...	...	...	...	...	...	...	...	...	...	...
Sudder Ameens .....	16,770	3,620	1,258	21.6	34.7	7.4	...	14,831	6,380	...	43.0	...
Moonsiffs .....	46,140	6,066	1,511	13.1	24.9	3.3	...	...	...	...	...	...
Total .....	68,687	11,586	3,174	16.86	27.39	4.62	...	16,979	7,097	...	...	...

\* As the Zillah Judges scarcely exercise any original jurisdiction, the figures in the tables must refer chiefly to suits appealed. The cases sent for re-trial are not included in the table.

In the Bombay Appeal Tables the appealable suits are not distinguished from those appealed, nor are the appeals against the decisions of the Zillah Judges stated.

The Punjab and Sind, and the Non Regulation Provinces, are not included in the preceding tables. The miscellaneous proceedings of the Judges of the several courts, embracing a very considerable amount of work, petitions, proceedings, applications for executions of decrees, petitions of special appeals, petitions for review, &c., &c., are not included in the tables from the several Presidencies.

Having detailed numerically the work done by the different civil courts in British India, this paper might, nevertheless, be deemed incomplete without offering some information on the initiatory expense of suits, and on the qualifications of the native judges and vakeels, or pleaders (quasi-barristers), who conduct suits in the courts of the civil judges. I append, therefore, the tables of the amount of the institution fee on a plaint at the different presidencies; in other words, the plaint must be written upon stamped paper, which is the property of government, of graduated values, corresponding to the amount in litigation; but in Bengal, and I presume in the North-West Provinces and Madras,\* suitors in the Moonsiffs' courts are excused from the use of stamped paper, as would appear from a reply of the Sudder Adawlut, in the Bengal Regulations, to the inquiries of a judge.

"I am directed to inform you, that the exemption from stamp duty, under Regulation III., 1817, included all cases, in whatever courts tried, below 64 rupees; this was extended by section 9, Schedule B., Regulation X., 1829, to cases not exceeding 150 rupees. By section 9, Regulation V., 1831, cases tried before Moonsiffs, to whatever amount, are exempt from stamp. There is no subsequent enactment affecting this last rule. Clause 3, section 9, Regulation V., 1831, however, enacts, that no suits, however small the amount, which are instituted in the Zillah Court, shall be held exempt, whether eventually referred to the subordinate authorities or retained on the judge's file. Section 3, Regulation VII., 1832, prescribes the amount of stamp in cases instituted in Zillah courts, viz., 4 rupees in cases above 1,000 rupees, and 1 rupee in original cases not above 1,000 rupees, as well as appeals from Sudder Ameens and Moonsiffs. Con. No. 767, West. C. 8th March. Col. C. 29th March, 1833."†

*Prices of Stamped Paper for Plaints in Original Suits.*

Bengal.		North-West Provinces.	Madras.	Bombay.		
Rupees.	Rupees.			Under 1 Rupee	No Stamp	Rs. A.
to 16 .....				1 to 2 .....		0 2
16 to 32 .....	2			2 to 5 .....		0 4
32 to 64 .....	4			5 to 10 .....		0 8
64 to 150 .....	8			10 to 20 .....		1 0
150 to 300 .....	16			20 to 30 .....		2 0
300 to 800 .....	32			30 to 40 .....		3 0
800 to 1,600 .....	50			40 to 50 .....		4 0
1,600 to 3,000 .....	100			50 to 75 .....		5 0
3,000 to 5,000 .....	150			75 to 100 .....		7 0
5,000 to 10,000 .....	250			100 to 200 .....		10 0
10,000 to 15,000 .....	350			200 to 300 .....		20 0
15,000 to 25,000 .....	500			300 to 500 .....		30 0
25,000 to 50,000 .....	700			500 to 1,000 .....		50 0
50,000 to 100,000 .....	1,000			1,000 to 1,500 .....		70 0
100,000 & upwards .....	2,000			1,500 to 3,000 .....		100 0
				3,000 to 5,000 .....		150 0
				5,000 to 7,500 .....		200 0
				7,500 to 10,000 .....		250 0
				10,000 to 15,000 .....		350 0
				15,000 to 25,000 .....		500 0
				25,000 to 50,000 .....		750 0
				50,000 to 100,000 .....		1,000 0
				100,000 to whatever amount ...		2,000 0

The Stamps for Bonds, Promissory Notes, Marriage Settlements, Answer, Rejoinder, Razunamah, &c., &c., are of much less value.

\* By India Legislative Act, No. xvii., of 1848, an institution stamp in the District Moonsiffs' Courts, at Madras, is sanctioned.

† Marshman's Guide to Civil Law, chap. ii., sect. 27, clause 447, p. 151.



In Bombay the Moonsiffs have jurisdiction to the extent of 5,000 rupees; and stamp exemption under 100 rupees did exist till 1828, when, by Regulation III., the exemption was abolished and stamps reimposed to check needless lawsuits, with what effect will be seen.

As there are stamp fees in the Moonsiffs' Courts in Bombay down to a sum in litigation of half-a-crown only, suitors are placed in a very different position from those under the other Presidencies. How far these differences may influence the amount of litigation under the different governments, as exhibited in the table of suits relative to population, is a matter for grave consideration; for it is shown, that the litigation under Bombay is just six times the amount of litigation in Madras, and twelve and a half times the amount in Bengal.

With respect to the qualifications of the native judges, precautions are taken to insure their competency. For the most part they are selected from a class who have been or are the ablest and best instructed vakeels, or pleaders (quasi-barristers), who have practised or practise in the several courts. The vakeels or pleaders have a license or qualification certificate, to practise; but previously to obtaining this Sunnud, "the qualifications of a candidate for the station of pleader shall be determined by certificate from a committee consisting of two or more law officers, of different persuasions on the establishment of either the court of Sudder Dewanee Adawlut, or the Zillah court, where the candidate offers himself for practice; the selection of the members of the committee shall be made by the Sudder Dewanee Adawlut, and a judge of that court shall preside in the committee, and shall have the casting vote in case of the members of the committee being equally divided, and a negative vote in all cases."—Bombay Regulations, 11 of 1827, chap. 6, sect. XLVIII., clause 2.

Similar precautions are taken before candidates are appointed to the office of Moonsiffs, from which station they usually rise, if zealous, efficient and honest, to be Sudder Ameens and Principal Sudder Ameens. The following are the regulations in Bengal for the examination of candidates for the office of Moonsiff:—

"181. That at each three Zillah stations in the North-West Provinces, and four in Bengal, to be selected by the governments of those Presidencies respectively, there be appointed a provisional committee of examination, consisting ordinarily, beside such person or persons as the government may think fit, of 1st, the Commissioner of the Division in which the station is situated; 2nd, the Zillah Judge; 3rd, the Magistrate; 4th, the Principal Sudder Ameen, or Principal Sudder Ameens, of the station."\*

"182. That all candidates for Moonsiffships be required to send in their applications for examination to a Zillah judge of the division within which they desire to be examined, at least two months before the examination to be held; but that no such application shall be presented to the judge who is a member of the examination committee.

"183. That the Zillah judge, after making such inquiries as he may deem proper, in order to ascertain that nothing exists against the character of the applicant to render him unfit to enjoy the privilege of examination, shall certify, on the face of the application, that the applicant may be examined."

\* Reg. V. of 1831, sect. iii., and Marshman's Guide, sect. xvii, "Constitution and Jurisdiction."

A satisfactory examination insures a diploma, which qualifies the individual for the duties of Moonsiffs on a vacancy occurring. On the 8th March, 1840, additional rules were laid down to render the examination both *viva vocè*, and by written answers, more rigid. In a recent despatch from Bengal, the Sudder Adawlut states: "Every days' experience shows that, as a body, they (the native judges) have advanced, and are gradually advancing, in probity, good conduct, and the knowledge requisite for the discharge of their responsible duties." With such qualifications in the native judges, and with such precautions taken to insure their possessing those qualifications, the amount of labour they perform and the moderate amount of appeals against their decisions, not only give confidence in the employment of native agency in the administration of justice, but would seem to sanction its further development in more elevated situations. Indeed, a recent writer\* seems to think they possess some peculiar qualifications which, in portions of the judicial functions, give them an advantage over the European judges. He says: "These offices, as we have before stated, are generally filled by either natives or East Indians, although open to all persons without reference to creed, colour, or caste; and the individuals who fill them, though usually inferior in point of education to their more favoured brethren of the covenanted service, may frequently have the advantage of the latter in regard to what may be termed strictly professional attainments. The majority of them have held, in the first instance, subordinate ministerial offices, or have practised as pleaders in the courts, and have so acquired a knowledge of the rules of court-practice and procedure, superior, in many instances, to that possessed by the more highly paid covenanted judge. They are naturally, also, more familiar with the habits and customs of the people, and more competent to estimate the value of the evidence brought before the court. In a knowledge of general principles, and in those habits of accurate investigation, 'which shall trace the doctrine upon which ordinances rest, and which as well as a mere knowledge of positive ordinances, are essential to judicial excellence.' The want, in most cases, of a liberal education must undoubtedly be much experienced by the class of officers to whom we refer; and it is to the general diffusion of European education, and to the establishment of law classes at each of our Indian Presidencies, that we must look as the only means of improving in this respect the qualifications of the officers who preside in the superior courts."

The jurisdiction of these officers at the different Presidencies, with respect to the amount up to which they can decide suits, is shown in the following table:—

*Jurisdiction of Native Judges in Original Suits.*

	Bengal.	North-West Provinces.	Madras.	Bombay.
	£	£	£	£
Principal Sudder Ameens.....	Unlimited.	Unlimited.	to 1,000	Unlimited.
Sudder Ameens.....	to 100	to 100	to 250	to 1,000
Moonsiffs .....	to 30	to 30	to 100	to 500

\* The Judicial System of British India. By an Indian Official. London, Pelham Richardson, 1852.



I am not aware of any reasons being given for trusting the native judges of Madras and Bombay (particularly the latter) with more extended powers than are given to the native judges of Bengal.

With regard to the cost of suits in India, it is plain that litigants get justice much cheaper there than in England. A pleader before a county court in England, would look aghast at a retaining fee of four annas of a rupee (just sixpence), which, at one time, was the regulated amount in a native judge's court, but which is now abolished, except under Bombay, where a retaining fee of eight annas (one shilling) still exists.—Reg. II. of 1827, chap. VI., sect. L., clause 2. Pleaders now make their own arrangements with their clients for their fees in conducting a suit through the courts; but when they have to be paid out of costs, and when there is no agreement, the following is the scale upon the amounts in litigation at the different Presidencies:—

*Pleaders' Fees when there is no Agreement.*

Bengal.	North-West Provinces.	Madras.	Bombay.
Under 500 <i>l</i> . 5 per cent.	Same as Bengal.	Under 500 <i>l</i> . 5 per cent.	Under 200 <i>l</i> . 3 per cent.
500 <i>l</i> . to 2,000 <i>l</i> . 2    "		500 <i>l</i> . to 2,000 <i>l</i> . 2    "	200 <i>l</i> . to 1,000 <i>l</i> . 2    "
2,000 <i>l</i> . to 5,000 <i>l</i> . 1    "		2,000 <i>l</i> . to 5,000 <i>l</i> . 1    "	1,000 <i>l</i> . to 2,000 <i>l</i> . 1    "
5,000 <i>l</i> . to 8,000 <i>l</i> . $\frac{1}{2}$ "		5,000 <i>l</i> . to 8,000 <i>l</i> . $\frac{1}{2}$ "	Above 2,000 <i>l</i> . $\frac{1}{2}$ "
Above 8,000 <i>l</i> . 100 <i>l</i> .   "		Above 8,000 <i>l</i> . 100    "	

The maximum sum, therefore, which a pleader can receive, except at Bombay, for conducting a suit is 100*l*. At Bombay, it is a half per cent. for all amounts above 2,000*l*. for 8,000*l*., therefore, he would receive only 40*l*. instead of 100*l*., as at the other Presidencies. Supposing a person, instituting a suit for the recovery of 20*l*., there would not be an institution stamp-fee in the Moonsiffs courts of Bengal, or North-West Provinces, and the fee to the pleader or barrister would be 1*l*. At Bombay the institution stamp-fee would be 1*l*., and the pleader's fee 12*s*. For a sum above 8,000*l*. in Bengal and at Bombay, the institution stamp-fee would be 100*l*., the pleader's fee in Bengal and Madras 100*l*., and in Bombay 40*l*.

I have not adverted to the vexata questio of precedence, for, however objectionable and capable of amendment it may be, it is evident its present state does not deter the people from seeking their rights in the courts.

Very much has been written and said by advocates for establishing the Jury System in India, where there is the precedent of a peculiar characteristic of the Panchaet, which is neither more nor less than a jury of five men (as the word Paunch, five, implies,) willing to decide upon cases referred to them.

It is therefore a matter of surprise to find not a single case referred to a Panchaet in the returns from Bengal and the North West Provinces, and only 130 and 253 in the respective returns from Madras and Bombay. As it is understood that the Indian Government throws no impediment in the way of the use of Panchaets, it must be a

voluntary act on the part of litigants going to tribunals where they find a single judge, and some expense in pursuing their rights; but this preference proves nothing against the useful introduction of juries into the administrations of both civil and criminal justice, for it is by the jury system that the discipline of the native Indian army has been satisfactorily maintained. All military offenders in regiments are tried by a jury of three or five, or more, native officers of the regiment, called a court-martial, and they take an oath to do justice. This jury not only decides the fact of guilty or not guilty, but also allots the punishment under the limitations of the Articles of War. For many years I was interpreter of my regiment, and in those days it was customary for the interpreter to superintend regimental courts-martial, to record the proceedings, and to explain military law; and I have often been struck with the acumen and sense of justice which have marked the decisions of the jurors. Had there been inherent faults in this system it could not have lasted so long. Grave offences are tried before thirteen or fifteen native officers of different regiments, assembled as district or general courts-martial. It is to be presumed, therefore, native juries could be made available in the administration of civil and criminal justice.

In the preceding tables I have endeavoured to compress into the narrowest possible limits a clear view of the working of the several courts in British India for the administration of civil justice. The sources of my information are the printed reports of the *Sudder Dewanee Adawlut* of the respective governments. I appear in no other character than as the expositor of facts, patent to any other person besides myself, who might have chosen to take the trouble to get at them. I am neither the apologist nor advocate for the existing system, nor do I express an opinion upon its defects or short-comings; the results must speak for themselves; but the present paper, combined with the two former papers, each composing reports for four years, renders manifest the important fact very little thought of, or even understood in Europe, that the whole civil justice of India, within a fraction, is administered in original suits, through native agency; and so far from aversion from the native courts being shown, the people under the Bombay Government have recently petitioned for the establishment of village *Meonsiffs*, similar to those at Madras. The European judges, in fact, exercise little more than appellate jurisdiction, combined, however, with the indispensable and highly important duties of watching over the conduct and proceedings of the native judges—a supervision which can never be abandoned or even relaxed with safety. Finally, the Indian Government can claim the distinction of taking the precedence of that of England in the establishment of courts analogous to the county courts, in establishing examinations to prove the capacity of pleaders before they are allowed to exercise their functions, and in fixing a limit to the costs of a suit.

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*Statistics of the Island of Portsea.*

[Communicated to the British Association for the Advancement of Science by the Portsmouth and Portsea Literary and Philosophical Society, and read before the Statistical Section, September, 1852.]

1. *General History of the Municipal Government of the Borough of Portsmouth.*

AN entry in the Heralds' Books at the College of Arms, purporting to be signed by the Mayor of Portsmouth, with the arms and seal of the corporation, and to have been drawn up on a Visitation for Hampshire in 1686, states that, by charter of King Henry I., granted in the 6th year of his reign, the borough of Portsmouth was incorporated by the name of "Approved Men of Portsmouth." No other record of this charter is now known to exist. Charter of 6  
Henry I.

Richard I. granted a charter, dated the 2nd of May, in the 5th year of his reign. It sets forth that the king had taken his borough of Portsmouth into his hands, and had granted an annual fifteen days' fair, and a weekly market, and that he discharged the Burgesses from tolls and other imposts, from suit to the Courts of the Sheriff and Hundred, and from numerous other services. This grant extends to them whithersoever they might go, by sea or land, throughout the realm. They were not to be impleaded concerning any tenement in the town, except before the king himself; and they were to hold their mansions and possessions with toll, by which it seems that the right of taking toll was granted, as well as exemption from it. King John granted a charter on the 5th October, in the 2nd year of his reign. This varies from the foregoing merely by enlarging the exception as to pleas concerning tenements in the town; it excepts pleas before the king himself or his chief justice. Charter of 5  
Richard I.

Henry III. granted a charter, dated at Oxford, on the 17th November, in the 14th year of his reign; by which the borough is granted in fee-farm, at a certain rent, "Hominibus nostris de Portesm̄." This charter is not mentioned in the *inseximus* of any subsequent. Charter of 14  
Henry III.

He granted a second, dated at Woodstock on the 18th November, also in the same year of his reign. This, however, appears to give no more than was granted by King John. Second Char-  
ter of 14  
Henry III.

By a third charter, dated the 5th April, in the 39th year of his reign, he confirmed his own charters and those of Richard and John. Charter of 39  
Henry III.

On the 4th July, in the 40th year of his reign, Henry III., by a fourth charter, granted a guild of merchants, and also freedom from caption both to person and goods, except where the person or owner should be a security or principal debtor, or where the principal debtor should belong to the community, and be capable of wholly or partially satisfying the debt, and the men of the guild should have failed to render justice. Charter of 40  
Henry III.

A charter granted by Edward II., on the 12th of February, in the 6th year of his reign, confirmed those of Richard I. and John, and the 2nd and 3rd of Henry III.; and was itself confirmed by another granted by Edward III., on the 13th October, in the 32nd year of his reign. Charter of 6  
Edward II.  
Charter of 32  
Edward III.

Charter of 8  
Richard II.

Charter of 2  
Henry IV.

Charter of 1  
Henry VI.

By a charter dated the 12th October, in the 8th year of the reign of Richard II., the 4th of Henry III. was confirmed; and this of Richard was confirmed by a charter granted on the 7th February, in the 2nd year of Henry IV.

On the 15th July, in the 1st year of the reign of Henry VI., another charter of confirmation was granted by the assent of the lords spiritual and temporal, and the commonalty, in the inspeximus of which the charter of Edward III. is omitted, and only the 3rd and 4th of Henry III. are mentioned.

Charter of 1  
Edward IV.

That of Richard II. was confirmed by a charter granted on the 21st December, in the 1st year of the reign of Edward IV.

Charter of 2  
Richard III.

This was confirmed by a charter granted on the 29th July, in the 2nd year of the reign of Richard III., and again by a charter granted on the 26th of January, in the 4th year of the reign of Henry VII. Henry VII.'s was confirmed by a charter granted on the 1st December, in the 3rd year of the reign of Henry VIII.; and Henry VIII.'s, by another granted on the 16th May, in the 4th year of the reign of Edward VI. The latter was confirmed by a charter granted on the 4th of February, in the 3rd year of the reign of Elizabeth. On the 15th February, in the 42nd year of the same reign, a second charter was granted. This recites that the borough had from time immemorial been governed by a mayor, two bailiffs, two constables, and other public officers from the burgesses and inhabitants. The time, however, at which the office of mayor was first in force in Portsmouth, is supposed to have been not earlier than the reign of Edward IV., at which time the town was probably governed by bailiffs, nor is it probable that it was later than that of Edward VI.

Charter of 4  
Henry VII.

Charter of 3  
Henry VIII.

Charter of 4  
Edward VI.

Charter of 3  
Elizabeth.

Charter of 42  
Elizabeth.

The corporation is incorporated by this second charter of Elizabeth, by the title of "Mayor and Burgesses of the Borough of Portsmouth." The successor to the mayor named in the charter is to be chosen according to the ancient constitution. Immediately afterwards, the charter directs that he shall be chosen by the mayor and burgesses, and from the senior and principal, better and more honest burgesses. Jurisdiction is given over felonies and misprisions, with the exception of such as touch life or limb. A non-intromittent clause is given as to justices. The burgesses and inhabitants are discharged from attending county juries, excepting (if we understand the clause correctly) for causes arising within the borough, in which the mayor or burgesses claim any privilege or exemption. Power is given to take recognizances of debt by statute merchant, and recognizances of charters touching tenements within the borough. A general confirmation of ancient charters and liberties is made, with a grant of the borough in fee-farm at the ancient rent. There is a preservation of the rights of the Lord Mountjoy, Governor of Portsmouth, and his successors.

Charter of 3  
Charles I.

In the 3rd year of the reign of Charles I., 4th November, 1627, a new charter was granted, dated at Westminster, under the writ of Privy Seal, which, after a slight suspension in the following reign, governed the borough until 1835.

Charter of 32  
Charles II.

Another was subsequently granted by Charles II., in the 32nd year of his reign, 1682, which was acted upon till the Revolution; when it was discovered that the surrender of Charles I.'s had never been enrolled, and as the charter of Charles II. was granted partly in con-



sideration of the previous one having been duly surrendered, this was now deemed void; the charter of Charles I., therefore, now came into full operation.

Considerable modifications of this, the ruling charter, have resulted from the Municipal Corporations Act (5 and 6 Wm. IV., c. 76), passed in the year 1835, and other more recent statutes. By sec. 1\* it was enacted, that so much of all charters then in force, relating to the several boroughs named in the Schedules A and B thereto annexed, as were inconsistent with, or contrary to its provisions, should be thereby repealed. Portsmouth was named in Schedule A. In order, therefore, to show the present municipal regulations affecting the borough of Portsmouth, each clause of the charter will be given in an abridged form, followed by such legislative enactments as alter or modify it.

Municipal  
Corporations  
and other  
Acts.

The charter, after reciting that the borough of Portsmouth, in the county of Southampton, was an ancient borough, and that its inhabitants, under various titles, had, from time immemorial, enjoyed certain privileges, either by charter or custom, and that the mayor and burgesses had prayed His Majesty to extend his grace to them and constitute them a body-corporate, and grant them certain privileges for their better government; states, that the King, considering the utility of the said borough as a seaport town, and the necessity for providing for its good government, for the maintenance of peace and justice therein, and that he might expect the ready service of the mayor and burgesses, and their successors, granted that the borough should for ever thereafter, be a body corporate and politic, of "the Mayor, Aldermen, and Burgesses of the borough of Portsmouth, in the county of Southampton," by which name they should have perpetual succession, power to sell and dispose of real and personal property, to plead in any courts, and to have a common seal, to be used in the transaction of business, with liberty to change the same.

Charter of 3  
Charles I.

Title of the  
Corporation.

By sec. 2, provisions are made, the effect of which is to continue to all persons who, before the passing of the Act, were entitled to, or possessed of corporate benefits, whether by virtue of any usage, custom, bye-law, or otherwise, the enjoyment of them, and to make it obligatory on the corporation to render to such individuals the benefits which they enjoyed before, subject to anything which before would have defeated the bye-law or custom under which they were enjoyed. (Rawlinson's Municipal Corporations Act, by Welsby, 3, n. 1.)

Municipal  
Corporations  
Act.  
Reservation  
of existing  
rights.

The corporation is styled in Schedule A, "The Mayor, Aldermen, and Burgesses of Portsmouth, in the county of Southampton." (Sec. 6.) The boundaries of the borough are to be the same as those set out in the statute 2 and 3 Wm. IV., c. 64, entitled "An Act to settle and describe the divisions of Counties, and the limits of Cities and Boroughs in England and Wales, in so far as respects the election of Members to serve in Parliament;" in which it is enacted that the borough of Portsmouth shall comprise the old borough of Portsmouth and the parish of Portsea. (Schedule O, 14.) By the above name the corporation is to have perpetual succession, and authority to do all such acts as they

Title of the  
Corporation.

Limits of the  
Borough.

\* Whenever a section is named without referring to any statute, it is to be understood as being a section of the Municipal Corporations Act.

might have done in their corporate name before the passing of the Act. (Sec. 6.)

Power to sell,  
lease, &c.

The corporation is not (except in pursuance of a contract entered into on or before the 5th June, 1835) to sell, mortgage, or alienate land, or to lease for a longer term than thirty-one years at a clear yearly rent, without fine; but if the council wish to sell, &c., or to lease on other terms, application may be made to the Lords Commissioners of Her Majesty's Treasury, and, with their consent, any sale, exchange, mortgage, or lease may be made. (Sec. 94, and 6 and 7 Wm. IV., c. 104, s. 2.)

Powers of renewal of leases are not to be affected by the Act. (Sec. 95.) Leases of certain buildings, and of ground for building on, or for making gardens, &c., may be made for seventy-five years (sec. 96), either at a reserved rent or a fine, or both, as the council shall think fit. (6 and 7 Wm. IV., c. 104, s. 2.)

Charities and  
Schools.

Section 71 refers to the powers of the town council as trustees of charities. The following charities deserve notice, as more or less controlled by the Corporation:—

A person, whose name we have been unable to obtain, bequeathed 500*l.*, to be invested in the name of the corporation, upon trust, to pay the interest to the poor of the borough; the principal has been appropriated to borough uses, and in lieu thereof the corporation entered into a bond to pay 15*l.* as an equivalent for the interest, on the 21st December in every year, to the poor.

Richard Wilmot, by his will, dated January 22nd, 1805, bequeathed to his executors, James Wilmot, James Wilmot his son, and Elias Glide, the sum of 500*l.*, upon trust, to invest the same in the funds, or on mortgage security; and he declared that such sum, and the interest and dividends thereof, should be a perpetual fund, from which twenty poor boys should, for three years each, be educated in the knowledge of the English language, writing, accounts, and navigation. His executors, together with the Master-General of Ordnance, the principal Engineer of Government Works at Portsmouth, the Commissioner of Portsmouth Dockyard, the Master Shipwright of Portsmouth Dockyard, the two county members, and the Mayor of Portsmouth for the time being, or such of them as were willing to act, were to be the trustees for the purposes of the charity. They are to appoint a schoolmaster at a salary of 20*l.* per annum, and to provide a schoolroom and firing. His executors, during their lives, and the majority of such trustees, after their decease, were to fill up vacancies among the boys; six out of the twenty were to be selected from among the testator's poor relations, the other fourteen were to be the sons of poor widows resident within the parish of Portsea.

The building for the two schools of the Royal Lancasterian Institution of the borough was erected in 1812, on a piece of ground belonging to the corporation, for which a rent of 5*l.* was reserved, but this was annually returned as a charitable gift. The reversion in fee of the land was, in the year 1851, granted by the town council for the same institution, and new and improved schools are now (1852) in the course of erection.

The mayor is visitor of a free grammar school, founded in 1732 by Dr. Smith, a former burgess, for the education of sons of the inhabit-



ants of the borough. The Dean and Chapter of Christ Church, Oxford, are trustees, and a committee appointed by them supply vacancies.

7 Wm. IV., and 1 Vic., c. 78, ss. 45, 46, 47, and 48, point out the mode of authorising the transfer and receipt of dividends and funded property belonging to the corporation, whether as charitable trustees or otherwise, and also the application of such property. Provision is also made for the council acting as trustees where certain members of the old council were ex-officio sole trustees, and power is given to appoint a limited number of councillors to be joint trustees for certain purposes.

Any advowsons or ecclesiastical preferments belonging to the town council in its corporate right, and not as charitable trustees, are to be sold under the direction of the Ecclesiastical Commissioners for England, and the council are to convey the same when sold; the proceeds are to be paid to the treasurer, to be by him applied in satisfaction of debts contracted before the passing of the Municipal Corporations Act, or invested on government security for the use of the council, the annual interest thereon to be carried to the borough fund. (Sec. 139). The object and intention of the legislature were, by this section, to take from the municipal corporations all ecclesiastical patronage whatsoever, and to transfer the same to purchasers. Doubts, however, were entertained whether the right to present to certain curacies and readerships in the gift of, and paid by, certain municipal corporations, but which, for want of any regular endowment or augmentation, had not become perpetual cures or benefices presentative, could be sold under this section; and in consequence the statute 1 and 2 Vic., c. 31, was passed, enacting that every such right of nomination, vested in any municipal corporation, might be sold, and that after such sale, every such curacy, &c., should become a "benefice presentative," within the meaning of 36 Geo. III., c. 83, and every such curate, &c., and his successors should become and be a "body corporate," within 1 Geo. I., c. 10, s. 4. (Rawlinson's Municipal Corporations Act, by Welsby, 228, n. 1.) The Corporation of Portsmouth had no ecclesiastical patronage.

That there should be a mayor and 12 aldermen, to be elected in a manner thereafter described; such mayor to be chosen from among the aldermen.

Charter of 3  
Charles I.  
Mayor and  
Aldermen.

That the aldermen should compose the council, to assist the mayor in the performance of his duties.

Functions of  
Aldermen.

That the mayor, aldermen, and burgesses, or the greater part of them, whereof the mayor should be one, might make such bye-laws as should appear to them desirable for the better regulation of the inhabitants, and to regulate their conduct in their various occupations, and also for the better care of the land to be acquired as aforesaid; and that they might, by the mayor and aldermen, (being the council of the said borough,) or the greater part of them, impose reasonable penalties and punishment, by fine or imprisonment, or both, upon the transgressors of such bye-laws, which fines were to be levied to the use of the corporation without the impediment of the Crown or its officers, provided that such laws and punishments were not repugnant to the laws of the realm.

Bye-Laws.

Appointment  
of Mayor and  
Aldermen.

Henry Holt, the then mayor, was appointed the first mayor under the present charter, to continue in office until the ensuing feast of St. Michael the Archangel, or, after that, until one of the aldermen should be sworn to the same office, and should first take the corporal oath before the last mayor or two aldermen faithfully to perform his duty. The following persons were appointed aldermen:—William Haberley, William Towerson, Owen Jenens, Henry Jenens, John Pares, John Lardner, Richard Jaes, William Winter, William Brook, Henry Wentworth, Robert Woodnutt, and Richard Jenens, who were in like manner to take their corporal oaths, and then to continue in office for life, unless sooner removed for ill conduct.

Mayor, how  
elected.

That the mayor, aldermen, and burgesses were to have authority to assemble annually in the guildhall of the borough, on the Monday seventh-night before the feast of St. Michael the Archangel, and nominate and elect one of the aldermen to be mayor for the year ensuing, or until one other of the said aldermen should be sworn in his stead.

That the said mayor should on such feast-day take the said corporal oath in the manner aforesaid.

That if a mayor, during his mayoralty, should die, or be removed by the aldermen, or a majority of them, for misconduct, the aldermen and burgesses should elect another, to serve until another of them should be chosen in the manner before described; and that the mayor elected to supply such vacancy should, on entering office, be sworn before two aldermen.

Removal of  
Alderman.

That any alderman might on reasonable grounds be removed by the mayor and other aldermen, and that, on the death or removal of an alderman, the rest, together with the mayor, should elect a burgess to complete the number.

Fines for  
non-acceptance of  
office.

That if, on the election of any of the said aldermen or burgesses to the office of mayor or alderman, he should refuse to accept the same, the mayor and council might fine and imprison him until payment.

Deputy  
Mayor, how  
elected.

That the mayor during illness, or on leaving the borough with the consent of a majority of the aldermen, might appoint from among the aldermen a deputy; such deputy to take the oath in manner aforesaid.

Burgesses,  
how elected.

That the mayor and aldermen might at their discretion elect burgesses, and should administer to them an oath of fealty to the borough, and also for the faithful performance of their duties.

Municipal  
Corporations  
Act.  
Burgesses  
and Freeman,  
how elected.

These regulations have been thus altered:—Every male of full age, who, on the last day of August in any year, has for three years previously occupied within the borough a house or shop, which has during those three years been rated to the relief of the poor; who has paid poor-rates and borough-rates (if any); who has been, during the time of such occupation, a resident householder within seven miles of the borough, and has been duly enrolled, is entitled to be a burgess; but aliens and persons who have received parochial relief are not to be enrolled. (Sec. 9.)

By section 3, no person is to be made burgess or freeman by gift or purchase. Sections 10, 11, 12, and 13, and 7 Wm. IV, cap. 78,



sects. 7 and 8, relate also to the qualifications of burgesses and the mode of enforcing them.

The Town Clerk is to make up and keep a roll of the freemen of the borough for perusal and sale. "Such list will now, by virtue of section 5, contain the following classes of persons:—1st. All persons who, on the 9th September, 1835, had been admitted as burgesses or freemen; 2nd, All persons who were entitled on the 9th September, 1835, to have been admitted, and who have since (7 Wm. IV., and 1 Vic. c. 78) been admitted; 3rd, All persons who, since the 9th September, 1835, have become entitled to be, and have been admitted, in respect of birth, servitude, or marriage." (Rawlinson's Municipal Corporations Act, by Welsby, 8, n. 1.)

Burgesses  
and Freemen,  
how elected.

Exclusive rights of trading are abolished. (Sec. 14.)

The overseers are, on the 5th September in every year, to make lists of all persons entitled to be burgesses in their respective parishes, to deliver the same to the town clerk, and to keep copies of such lists for public inspection. The town clerk is to have copies printed, that any one requiring the same may have a copy on paying a reasonable sum. He is also to fix a copy on some conspicuous place within the borough, for a week preceding the 15th September in every year. (Secs. 15, 16.)

Any person whose name has been omitted from the list, may claim to have it inserted therein, by giving notice in writing to the town clerk before the 14th September. And any person whose name has been thus inserted, may object to the right of any other person to have his name retained on the list, by giving notice to the town clerk and to the person objected to. The town clerk is to cause a list of claimants, and of persons objected to, to be published; and copies of such lists are to be kept for sale. (Sec. 17.)

Sometime between the 1st and 15th October, the mayor and two assessors (thereinafter directed to be appointed) are to hold a court, for the purpose of deciding upon claims and objections, and of correcting mistakes in the lists. In case the court direct a name to be expunged from the list, an appeal lies to the superior courts by means of the writ of mandamus (Sec. 18, and 7 Wm. IV., and 1 Vic., c. 78, s. 24.) By statutes 6 and 7 Vic. c. 85, s. 5, provisions are made for expediting proceedings by way of mandamus and quo warranto.

The mayor has power to administer oaths to the several persons attending the court. (Sec. 18.)

All persons allowed to make affirmation instead of taking oath, may do so in every case where an oath is required by the act, and the making a false affirmation is to be punished as perjury.

The mayor and assessors are to decide claims and objections, &c., and the mayor is to sign the list in open court. (Sec. 19.)

By 7 Wm. IV., and 1 Vic. c. 78, s. 3, all elections had before the passing of that Act, (July, 1837,) or to be had under that Act before the election of assessors, are declared as good as if had before the mayor and assessors jointly. By sec. 5 of the same Act, the burgess-roll is not to be questioned for want of title in the mayor or assessors; and by sec. 6, it is to be in force until the revision of the new burgess-list.

The revised borough lists are to be kept by the town clerk and copied into books, with the names numbered; such book to be the roll

of burgesses entitled to vote. Copies of the burgess-roll are to be printed for sale. (Secs. 22, 23.)

Borough, how constituted.

Aldermen, how elected.

The mayor, aldermen, and councillors to be chosen in every borough are together to constitute the council of the borough. The borough of Portsmouth is to have a mayor, fourteen aldermen, and forty-two councillors. (Sched. A., s. 1.) In every third year the council are to choose from among the councillors, or persons qualified to be councillors, the aldermen of the borough, or as many as are necessary to supply the places of those who go out. One-half are to go out every third year, being those who have been longest in office, without re-election. The outgoing aldermen may be re-elected, but they are not entitled to vote in the election of new aldermen. (Sec. 25.) The mode of conducting the election is prescribed by 7 Wm. IV., and 1 Vic., c. 78, s. 14, which empower the mayor or chairman to give the casting vote in case of an equality of votes. Extraordinary vacancies in the office of alderman are to be filled up within ten days, by the election of a councillor or person qualified to be a councillor, who is to hold office during the same time that the person whose place he succeeds to would have held it. (Sec. 17.)

Persons in holy orders, ministers of dissenting congregations, persons who are not entitled to be on the burgess-list, who are not possessed of real or personal estate, or both, to the amount of 1000*l.*, who are not rated to the relief of the poor to the value of not less than 30*l.* annually, who hold any office of profit (other than that of mayor\*), in the disposal of the borough, or who have an interest in any contract on behalf of the council, cannot be elected aldermen or councillors. (Sec. 28.)

By 5 and 6 Vic. c. 104, s. 1, it is enacted, that the word "contract" in the above section, is not to extend to contracts for sale, lease, or purchase of land, &c. And no person is to be disqualified by reason of his being a proprietor or shareholder of any company which shall contract with the council of the borough for lighting, or supplying with water, or insuring against fire, any part of the borough. (Sec. 28.)

By 7 Wm. IV., and 1 Vic., c. 78, s. 15, auditors and assessors are disqualified from being members of the council.

By 5 and 6 Vic., c. 104, s. 2, members of the council are not to vote or take part in the discussion concerning any matter in which they are pecuniarily interested.

\* Mr. Welsby, in his note on sec. 58, which enables the council to grant a salary to the mayor, remarks, "In all cases it will be seen that the mayor of a borough may be paid such salary, or allowance, as the council may think reasonable. Previously to the passing of this Act, the mayors were generally allowed salaries as a remuneration for the labours and expenses necessarily incident to the mayoralty. In some cases, doubtless, these sums may have been too large, but since the new councils have been elected a contrary extreme has been generally adopted; and, in many boroughs, no salary or allowance of any kind is made to the mayor. In the larger boroughs, where no police magistrate has been appointed under this Act, the duties devolving on the mayor are of a somewhat onerous description, and it is hardly to be expected, except perhaps in times of political excitement, that professional men, or merchants, or other persons of respectability in the borough, will give up, gratuitously, their time and labour, to the sacrifice or serious detriment of their private affairs, without, at all events, some allowance for the expenses which are 'necessarily incident to such an office.'" In Portsmouth no such remuneration is given to the mayor.



Persons whose names are on the burgess-roll, and such persons only, are entitled to vote in the election of councillors, auditors, and assessors. (Sec. 29.) Councillors,  
how elected.

On the 1st November in every year, the burgesses are to assemble and elect councillors to supply the place of those who go out of office. (Sec. 30.)

By 7 Wm. 4 and 1 Vic. c. 78, ss. 25, 26, in case elections of municipal officers are not made within the time appointed, the corporation may proceed to such elections on the following day, and the powers given to the Court of Queen's Bench under 11 Geo. I. c. 4, are extended to elections under the Municipal Act. One third part of the council are to go out of office every year, being the third part who have been longest in office without re-election; but by sec. 26 this is not to affect the mayor or aldermen. Any councillor going out of office may be re-elected. (Sec. 31.) Secs. 32, 33, 34, and 35, point out the mode of proceeding at elections of councillors for boroughs not divided into wards; but by sec. 43, the same mode is to be adopted where there is such division.

Such elections, in wards, are to be held before the alderman yearly appointed for that purpose by the councillors of the ward (sec. 43), or, in case of his illness or incapacity, before another alderman to be appointed by the mayor (7 Wm. IV., and 1 Vic., c. 78, s. 16), and before the two assessors.

The alderman and assessors are to examine the voting papers delivered by the electors, and to declare elected the required number of persons, who have the greatest amount of votes. In case of an equality of votes, the alderman and assessors, or any two of them, may give the casting vote.

The town-clerk is to keep the voting papers for six months, at his office, for public inspection. One shilling is to be paid for every search. The mayor is to publish the names of the councillors elected.

On the 1st March in every year, the burgesses of each ward are also to elect two assessors for such ward. Such elections are to be held before the alderman yearly appointed in that behalf, by the councillors for the ward (sec. 43), or, in case of his illness or incapacity, before such other alderman as the mayor shall appoint (7 Wm. IV., and 1 Vic., c. 78, s. 16), and before the two assessors. The election is to be conducted in the same manner as that of councillors. The assessors are to continue in office for one year. No burgess is to vote for more than one assessor, or to be eligible, who is a member of the town council, or town-clerk, or treasurer of the borough. (Sec. 37.) Assessors,  
how elected.

By 7 Wm. IV., and 1 Vic., c. 78, s. 17, every assessor, when elected, is to appoint, under his hand, a deputy, to perform his duties in case of illness or incapacity, such appointment to be signified to the council, and entered on their minutes.

The aldermen and assessors in wards are to have the same powers in elections as the mayor and assessors would have had for the whole borough, had there been no division. (Sec. 43.)

The burgesses are, on the 1st March in every year, to elect, by a majority of votes, from the persons qualified to be councillors, two assessors for revising the burgess-lists with the mayor. The election Assessors (to  
revise Burgess  
lists with  
Mayor), how  
elected.

is to be conducted in the same manner as that of councillors. (Sec. 37, and 7 Wm. IV., and 1 Vic., c. 78, s. 4.)

Determina-  
tion of exist-  
ing bodies.

Division of  
boroughs  
into wards.

Section 38 provides for the determination of office of bodies existing at the time of the Act coming into operation.

By sec. 39, certain boroughs are divided into wards; Portsmouth being divided into 7. (Schedule A, sec. 1.)

The revising barrister had authority to revise, in the first year of the Act coming into operation, the burgess and council lists; and was also, within six weeks of the passing of the Act, to set out the limits and boundaries of the several wards of boroughs; particulars of such divisions were to be notified to one of His Majesty's Principal Secretaries of State, and, if the king, by the advice of the Privy Council, approved of it, public notice was to be given in the "London Gazette," and another copy of such particulars was to be delivered to the town clerk, to be preserved by him among the public documents of the borough. Such division was to be binding, until altered by Act of Parliament. The number of councillors for each ward was to be assigned by the barristers, according to certain rules, and, thereupon, the same steps were to be taken as those directed in the 39th section *supra*. (Sec. 40.) In some boroughs, ancient divisions into parishes or districts, for the purposes of local acts, might be regarded by the barristers, for the sake of convenience, in the division of such boroughs into wards. (Sec. 41.)

Burgesses are to vote in the ward in which their property is situate, and if they have property in more than one, they are to elect in respect of which they will be enrolled and vote. (Sec. 44.) Lists of the burgesses in each ward are to be made out yearly. (Sec. 45.) If any person is elected a councillor or assessor in more than one ward, he is within three days to make his election, and if he neglect to do so the mayor may declare for which he is to be considered as elected. (Sec. 46.)

Occasional  
vacancies  
among  
Councillors,  
&c., how  
supplied.

Occasional vacancies of councillors, auditors, or assessors are to be filled up by fresh elections within ten days, those thus elected to remain in office for the rest of the time for which the former were elected. (Sec. 47.) By 7 Wm. IV. and 1 Vic., c. 78, s. 11, if an election take place to supply more than one extraordinary vacancy among the councillors, the candidate elected by the smallest number of votes is to be considered as elected in the place of him who would regularly have first gone out of office, and the person elected by the next smallest number, is to be considered as elected in the place of him who would next have gone out of office, and so on.

Penalties  
against  
officers not  
complying  
with the Act.  
Mayor, how  
elected.

By sec. 48, certain penalties are enacted against such mayors, aldermen, assessors, overseers, and town clerks as shall neglect to comply with the provisions of the Act.

On the 9th November in every year the council are to elect from the aldermen and councillors, a mayor, to continue in office for one year (sec. 49), and until his successor shall have accepted the office of mayor, and shall have made and subscribed the requisite declaration. (6 and 7 Wm. IV. c. 105, s. 4.) In case of a vacancy, the council are, in the same manner, to make the election within ten days. (Sec. 49.)

No election of any mayor is to be called in question for defect in



his title to the office of alderman or councillor, to which he may have been previously elected, unless by *quo warranto* within twelve months from his election to such office of alderman or councillor, (6 and 7 Vic. c. 89, s. 1), and, by the same section, all elections are to be deemed valid unless so called in question.

The mayor, aldermen, councillors, or assessors are not to act until they have made a declaration of acceptance of office, in the form prescribed by the Act, before two aldermen or councillors. Aldermen, having made such declaration, may also be required, by any two members of the council, once in every three years, to make a declaration that they are still qualified. Making the declaration of acceptance of office is not to dispense with the necessity of making the declaration prescribed by 9 Geo. IV. c. 17. But by statutes 1 and 2 Vic. c. 5, and 1 and 2 Vic. c. 15, all Quakers, Moravians, and Separatists, on accepting any office connected with a municipal corporation, may make a declaration in the form contained in 1 and 2 Vic. c. 5, s. 1, in lieu of the one required by 9 Geo. IV. c. 17, and by sec. 50 of the Municipal Corporations Act. And by 8 and 9 Vic. c. 92, a similar privilege is extended to persons of the Jewish persuasion.

Declaration to be made by officers on taking office.

Every burgess elected to the office of alderman, councillor, auditor, or assessor, and every councillor elected to the office of mayor, must either accept the office or pay a fine to the borough-fund, to be fixed by a bye-law of the council, such fine not to exceed 100*l.* in the case of a mayor, or 50*l.* in either of the other instances.

Fines for non-acceptance of offices.

If the declaration of acceptance of office be not made and subscribed within five days after the election, the fine becomes due. Certain exemptions from serving are made in favour of persons who are bodily or mentally disabled from various causes,—persons above sixty-five years of age,—persons who have previously served, or paid the fine, within five years,—also military, naval, and marine officers in full-pay, and any officers resident and employed in any dockyard, victualling-yard, arsenal, or barracks.

By 6 and 7 Wm. IV., c. 105, s. 8, any corporate officer may resign his office on payment of the same fine which he would have been liable to for not accepting such office; and no person enabled by law to make an affirmation instead of taking an oath, is to be liable to pay a fine for not accepting any municipal office, by reason of his refusal, on conscientious grounds, to take an oath, or make a declaration required by the Municipal Corporations Act, or to take upon himself the duties of such office.

If any mayor, alderman, or councillor shall be declared bankrupt or insolvent, or shall compound by deed with his creditors, or, being a mayor, shall absent himself for more than two calendar months, or, being an alderman or councillor, for more than six months (except in case of illness), he shall lose his office, and, in the case of absence, shall incur, besides, a fine, as in sec. 51; but every such person may, under certain circumstances, be re-elected. (Sec. 52.)

Disqualification of Members of the Council.

Any person acting as mayor, alderman, councillor, auditor, or assessor, without having made the declaration of acceptance of office, or without being duly qualified, or after ceasing to be qualified, or after becoming disqualified to hold such office, is to forfeit 50*l.* (Sec. 53.)

Penalties for acting without being qualified.

All acts, however, of persons in possession of the office of mayor, alderman, councillor, auditor, or assessor, are to be valid. And by 6 and 7 Wm. IV., c. 104, s. 7, no person enrolled on the burgess-roll of the borough, for the time being, is to be liable to any penalty for acting, on the ground that he was not entitled to be on the burgess-list. And by 7 Wm. and 1 Vic., c. 78, s. 1, no municipal election is to be questioned on account of want of title in the presiding officer, provided he be in possession of the office; and the acts of persons are declared legal, if the person before whom their election took place had taken upon himself the office.

Persons convicted of bribery are liable to a penalty of 50*l.*, and are also disqualified from voting at any election in the borough, or at any municipal or parliamentary election in the kingdom, and also from holding any municipal office within such borough. (Sec. 54.)

Persons offending in any of the cases mentioned in sec. 54, are, on informing against others so offending, to be discharged from all penalties. (Sec. 55.)

No person is to be liable to incapacity, penalty, &c., unless prosecuted within two years from the commission of the offence. (Sec. 56.)

The mayor is to be a justice of the peace for the borough, during his mayoralty, and for the succeeding year, and returning officer at elections of members to serve in parliament. If the mayor be, from any cause, incapable of acting as returning officer, the council are to appoint one of the aldermen. (Sec. 5.)

The council have power to make bye-laws for the government of the borough, and for the prevention and suppression of nuisances, not provided for by local acts. In Portsmouth there are such acts.

They may also appoint fines, not exceeding 5*l.*, for the prevention and suppression of such offences.

No bye-law is to be made unless at least two-thirds of the council be present; nor is any bye-law to be in force until forty days after the same, or a copy of it, shall have been sent to one of Her Majesty's principal Secretaries of State, and another affixed to the outer door of the Town Hall, or some other conspicuous place. If Her Majesty, with the advice of her Privy Council, disallow such bye-law, within the forty days, it shall be of no force. She has power, also, to enlarge such time. (Sec. 90.) All the provisions relative to offences against the Act, punishable upon summary conviction (see *infra*, page 66), are to apply to offences committed in violation of bye-laws. (Sec. 91.)

All acts of the council are to be decided by a majority of the members of the council present; one third part of the whole number to form a quorum. The mayor is to preside; and the mayor, or in his absence such alderman, and in the absence of all the aldermen such councillor, as the council present shall choose to be chairman of the meeting, is to have a casting vote in all cases of equality of votes. Minutes of the proceedings at every meeting of the council are to be kept in a book, to be signed by the member of the council presiding at such meeting, and to be open to the inspection of the burgesses. (Sec. 69.) And by 7 Wm. IV., and 1 Vic., c. 78, s. 22, any burgess may, at convenient hours, take copies of or extracts from such minute-book, and also of any order in council for the payment of money. And any alderman or councillor is to have the same right with regard to a

Penalties for  
bribery.

Mayor to be  
Justice of  
Peace, and  
Returning  
Officer at  
Parliamentary elec-  
tions.

Bye-laws.

Meetings  
of the Council.  
Business,  
how trans-  
acted.



book directed by s. 93 to be kept by the treasurer. Three days notice of the meetings of the council is to be given, signed by the mayor, who has power to call meetings when he thinks proper. Any five members of the council, after an unsuccessful application to the mayor to call a meeting, may do so by giving notice of such meeting, signed by themselves, stating the business to be transacted at such meeting. A summons to attend, specifying the business to be transacted, and signed by the town-clerk, is to be left at the residence of every member of the council, three days before every meeting.

Quarterly meetings of the council are to be held on certain days in every year, for the transaction of general business, but no notice need be given of the business to be transacted on such days. (Sec. 69.)

The council may appoint, out of their own body, any number of committees, consisting of as many members as they may think proper; their acts to be subject to the approval of the council. (Sec. 70.)

Committees  
of the Council.

Power was given to the trustees of certain local boards for paving, lighting, &c., towns, to transfer their office to the town council, by writing, under their hands and seals; but this power has not been exercised in the borough of Portsmouth, where such local boards are still existing in the parishes of both Portsmouth and Portsea.

Trustees of  
Local Boards  
may transfer  
their office  
to Council.

By 6 and 7 Wm. IV., c. 105, s. 8, the powers conferred by local acts on justices in quarter sessions, which did not relate to the business of a court of civil or criminal judication, and were not within the powers of the recorder, were vested in the council, to be acted upon at any quarterly meeting, or by a committee, or any three of a committee, to be appointed at a quarterly meeting.

Certain  
Powers con-  
ferred by  
Local Acts on  
Justices to be  
performed by  
Council.

That there should be a recorder for the borough, who should, previous to entering office, take an oath before the mayor, for the faithful discharge of his duty; and Thomas Watman, Esquire, was thereby appointed the first to this office, which he was to hold during good behaviour. That he should assist the mayor and aldermen in the business of the court of record, and any other court to be holden in the borough.

Charter of 3  
Charles I.  
Recorder,  
appointment  
and duties of.

That upon the death of the said Thomas Watman, the mayor and aldermen, or the survivor of them, might elect another to supply his place, who should hold his office on the same tenure, and on taking the same oath.

That a court of record might be holden before the mayor, recorder, and aldermen, or any four or more of them (the mayor or recorder to be one), in the Guildhall every Tuesday, (except in the week of Easter, Pentecost or Christmas,) with power to hear and determine all personal and mixed actions, in such manner and for such amounts as the said mayor and burgesses might then hold plea there; that the appearance of the defendants might be compelled by summonses, attachments, and distresses directed to the serjeants-at-mace of the said borough, and in the absence of anything whereon to distrain, to compel appearance by attachment on the bodies of such defendants, and to proceed generally, both in pleading and practice, in the same manner as in the said borough, or in any city or other borough in England.

Court of  
Record.

That a court-leet and view of frankpledge should be held within the said borough, on the Monday after the feast of St. Andrew the

Court Leet  
and view of  
Frankpledge.

Apostle, and Thursday in the week of Easter, or at some other convenient day within one month of the feast of St. Michael the Archangel in every year, before the mayor, or recorder, and aldermen of the borough.

Municipal  
Corporations  
Act.

The following alterations have been made with respect to the borough court of record, the borough court of quarter sessions (which superseded the court-leet and view of frankpledge), and the appointments, privileges, and duties of the recorder.

Court of  
Quarter  
Sessions.

The Municipal Corporations Act abolished the borough court of quarter sessions, which was accustomed to be held at the time the Act passed, but upon petition to the king, a separate court of quarter sessions for the borough was granted (under s. 103), and a recorder was appointed for such court, being a barrister of not less than five years' standing, to hold office during good behaviour, and to be sole judge.

Recorder,  
appointment  
and duties of.

Such court is to be a court of record, and to have cognizance of all crimes, offences, and matters whatsoever cognizable by any court of quarter sessions of the peace for counties in England, with a few specified exceptions. (Sec. 105.)

The recorder is to hear and determine appeals against borough rates. (Sec. 92.) Under 5 and 6 Wm. IV., c. 63, s. 17, he appoints an inspector of weights and measures for the borough. (Rawlinson's Municipal Corporations Act, by Welsby, 187, n. 1.)

The mayor, in the absence of the recorder and deputy recorder, may open and adjourn the court of quarter sessions, and respite all recognizances conditioned for appearing at the same. (Sec. 106.)

Boroughs to which separate courts of quarter sessions have been granted, are no longer to contribute to county rates. (Sec. 112.)

By 7 Wm. IV., and 1 Vic., c. 19, recorders, or other persons presiding in the court of quarter sessions, are empowered to divide their courts when the business is likely to occupy more than three days, and to appoint a barrister of not less than five years' standing, to be called an assistant barrister, to preside in such second court. Power is also given for the appointment of other necessary officers, and for the remuneration of all these.

Deputy Re-  
corder, ap-  
pointment of.

The recorder is ex-officio a justice of the peace for the borough, although he may not be qualified by estate for a county justice;—he is to have precedence in all places within the borough next after the mayor, he is to be paid out of the borough fund the salary named in the petition of the council; but he is not to be member of parliament, alderman, councillor, or police magistrate of the borough. In case of sickness, or unavoidable absence, he may, under his hand and seal, appoint a deputy (being a barrister of not less than five years' standing,) to act for him at the ensuing quarter sessions only. (Sec. 103.) Under this section of the Municipal Act, the consent of the council was required; but the necessity of obtaining this consent being productive of great inconvenience, power is given by 6 and 7 Vic., c. 89, ss. 7 and 8, to the recorder *alone* to appoint a deputy. (Rawlinson's Municipal Corporations Act, by Welsby, 185, n. 3.)

The recorder and justices are not to be capable of acting until they have taken before the mayor, or any two aldermen or councillors,



(without suing out any special dedimus for that purpose, 6 and 7 Wm. IV., c. 105, s. 3,) the oaths required to be taken by justices of the peace, except the oath as to qualification by estate, and also a declaration, in the form prescribed by the Act, for the faithful performance of their duty. (Secs. 104, 105.)

The council are to appoint a clerk of the peace, also to hold office during good behaviour.

Clerk of the  
Peace, ap-  
pointment of.  
Court of  
Record.

By sec. 118, amended and explained by 6 and 7 Wm. IV., c. 105, s. 9, 7 Wm. IV., and 1 Vic., c. 78, ss. 32, 33, 34, 35, and 36, and 2 and 3 Vic., c. 27, provisions are made for holding borough courts of record, as before the Municipal Corporations Act, but, in certain cases, with extended jurisdiction. Personal actions to the extent of 20*l.*, and actions of ejectment where the rental is not more than 20*l.*, may be tried; but no action in which the title to any land, tithe, toll, market, or franchise is questioned. It is to be held before the recorder, four times a year for the trial of issues of fact or of law, at intervals not greater than four months.

In the Portsmouth borough court of record, the business, if any, is transacted after the business of the court of quarter sessions. Any matter, except the trial of any issue, may be disposed of by the recorder's deputy (being a barrister or attorney of not less than five years' standing;) or, in his absence, by the registrar of the court.

The recorder is to be paid by salary, to be fixed by a bye-law of the council. He may make rules for the regulation of the court, subject to the allowance of three of the judges of the superior courts. Accordingly, in 1842, Christopher Rawlinson, Esq., (now Sir Christopher Rawlinson, Chief Justice of the court of Madras,) who was then recorder of the borough of Portsmouth, framed a set of rules, which were confirmed by three judges, and which now regulate the practice of the court. Upon the petition of the council, and of the justices of any adjoining district, in quarter sessions assembled, the Queen, by the advice of the privy council, may extend the jurisdiction of the court to such adjoining district. The council are to appoint all the officers of the court. (Sec. 119.) Since the coming into operation of the "Act for the more easy recovery of small debts and demands in England," stat. 9 and 10 Vic. c. 95, amended by stat. 13 and 14 Vic. c. 61, the practice in the borough court of record has almost entirely ceased.

For the eligibility of jurors, the property qualification specified in 6 Geo. IV., c. 50, is not required; and every burgess, disqualified or not exempted by any other provision of the same Act, is liable to serve on grand juries, on the juries summoned to sit on trials of issues joined in the court of quarter sessions, and in the court of record. The clerk of the peace is to give notice of the holding of the court of quarter sessions, to summon the grand and petty juries for such court, and for the borough court of record. The court may fine jurymen for non-attendance, or for withdrawing themselves from the court; such fines to be levied by distress.

No person is to be required to serve on a jury more than once in a year, (sec. 121,) unless all the persons liable to serve have been summoned during that year. (7 Wm. IV., and 1 Vic. c. 78, s. 36.)

Members of the town council, borough justices, the treasurer, and town-clerk, are exempted from serving on borough and county juries;

and burgesses are also exempted from serving on juries at the general or quarter sessions. (Sec. 122.) All chartered exemptions from liability to serve on juries are abolished. (Sec. 123.)

The fees to be taken by the clerk of the peace, the clerk to the justices, the registrar, and officers of the borough court of record, the town council are authorized to determine, subject to the approval of one of her Majesty's principal Secretaries of State.

By 2 and 3 Vic., c. 27, s. 1, the judge of the court of record has authority to make, alter, and revoke the rules for appointing the times of holding such court, for regulating the forms and manner of proceeding, the process, appearance, practice, and pleadings in the court, and for settling the reasonable fees of the attorneys therein practising; provided always, that no such regulations be of any force until confirmed by three of the judges of the superior courts of common law at Westminster. Tables of such fees are to be hung up in the town clerk's office, the justices' room, the court of quarter sessions, and the court of record.

Charter of 3  
Charles I.  
Justices,  
appointment  
and func-  
tions of.

That the recorder, and each mayor for one year after his mayoralty, together with three of the aldermen, should be justices to keep the peace within the borough, and to preserve the statutes of artificers and labourers, weights and measures, within the borough; and to hear and determine all manner of misdemeanours and offences arising within the said borough, and all other matters and things usually appertaining to the office of justice of the peace, and to punish the same offences; but not to have cognizance in matters of treason, murder, or felony, or any other matter touching the loss of life or member, without special mandate from the throne.

That no justice of the peace for the county of Southampton should interfere with any matter arising within the borough.

That the said Owen Jenens, William Towerson, and Henry Jenens, three aldermen as aforesaid, should be justices within and for the borough, until the feast of St. Michael the Archangel then next following, and from thenceforth until others should be elected in their place. That the mayor, aldermen, and burgesses, or the majority of them, should, on every Monday seventh-night before the feast of St. Michael the Archangel, elect three aldermen of the said borough to be justices for the ensuing year, and until others should be elected in their place; and in case of the death of one of them, to elect another, who should take the same oath, and hold office during the time that his predecessor would have held it.

Gaol.

That there should be a common gaol, or prison, in the borough, for the keeping of all persons attached or sentenced to the same for any cause arising within the borough; the mayor for the time being, or any person appointed by him, to be the keeper of it.

Justices,  
functions of.

That the justices of the peace, or any two or more of them, should, by their warrants in writing, signed by themselves, be authorized to send to the county gaol, to be tried by the justices there, any traitors, murderers, homicides, felons, robbers, and other malefactors; for which purpose their warrant in writing, signed by themselves, should be a valid authority for the sheriff of the said county and the keepers of the said county gaol, to receive such malefactors, and to retain them until



their trial before the justices of assize, and that these letters patent, or an enrolment of them, should be to the sheriff and keeper of the said county gaol, a sufficient warrant.

In addition to the recorder, by sec. 57, the mayor is to be a justice of the peace for the borough during his mayoralty, and for the ensuing year.

Municipal  
Corporations  
Act.  
Justices,  
appointment  
and func-  
tions of.

By sec. 98, the queen's commission may be issued to as many persons as she may think proper, to act as justices in the borough, such persons to reside within, or within seven miles of, the borough, while in office; but, by sec. 101, they need neither be burgesses, nor be qualified by estate, but in all other respects they must be qualified as other justices of the peace. Fifteen borough magistrates have been appointed for the borough of Portsmouth under this provision.

By 7 Wm. IV., and 1 Vic., c. 78, s. 31, offences against local acts are made cognizable by borough justices. By 12 and 13 Vic., c. 18, s. 1, the provisions of 11 and 12 Vic. cc. 42 and 43, are declared to extend to borough justices. By sec. 111, and 12 and 13 Vic., c. 8, the borough justices are to have the exclusive right of appointing overseers.

The council may make a bye-law requiring to have one salaried police magistrate or more, specifying the salary proposed to be given. Such bye-law is to be transmitted to one of Her Majesty's principal Secretaries of State, whereupon the Queen may appoint such magistrates, being barristers of not less than five years' standing, their salaries to be paid quarterly out of the borough fund. In case of vacancy, fresh application is to be made by the council. (Sec. 99.) No stipendiary magistrate has been appointed for the borough of Portsmouth.

The council are to provide, furnish, and maintain a police-office for transacting the business of the borough justices. (Sec. 100.) The borough justices hold their sittings in the Town Hall; where the court of quarter sessions, court of record, and meetings of the town council are also held.

Summonses and warrants may be served and executed in the county in which the borough is situate, or within seven miles thereof; but the borough justices are not to sit at courts of general gaol delivery, or general or quarter sessions, or in making or levying any county rate, or rate in the nature of a county rate. (Sec. 101.)

By 12 and 13 Vic., c. 64, any two or more borough justices are to have all the powers and authorities, relative to the relief of the poor, which any two or more county justices out of general or quarter sessions have, by virtue of the Act of 43 Eliz., c. 2. The borough justices are to appoint a clerk, to be removeable at their pleasure, who is not to be clerk of the peace, alderman, or councillor, nor to be concerned in the prosecution of offenders committed by the borough justices, under a penalty of 100*l*. (Sec. 102.)

The council are to appoint a watch-committee, consisting of mem-  
bers of the town council, with the mayor at their head, such committee to act by the majority present at any meeting of not less than three. They are to appoint police constables, to be sworn in before some borough justice. Such constables may act for the county within which the borough is situate, as well as for the borough. (Sec. 76.)

Police.

## Police.

The watch-committee may make regulations for the management of the constables. (Sec. 77.) In 1840, the watch-committee of the Portsmouth town council published a code of instructions and regulations for the observance of the police force. The watch-committee, or any two borough justices, may suspend or dismiss any constable. (Sec. 77.) Constables have power to apprehend idle and disorderly persons, or persons suspected of an intent to commit felony. (Sec. 78.)

Constables, attending at the watch-houses in the night, may take bail, by recognizance, from persons brought before them, without warrant, for petty misdemeanours; such recognizances to be conditioned for the appearance of the parties before a magistrate. In default of appearance the recognizance is to be estreated; but the time appointed for hearing may be enlarged. (Sec. 79.) Any constable convicted before two justices of neglect of duty, or disobedience to lawful orders, may be dismissed, or imprisoned for any time not exceeding ten days, or be fined in any sum not exceeding 40s. (Sec. 80.) A penalty, not exceeding 5*l.*, may be inflicted on any person convicted, before two justices, of assaulting any constable, or of resisting him in the execution of his duty, or of inciting others to do so; or an indictment may be laid for the offence; but the offender is not to be subject to both kinds of prosecution. (Sec. 81.) The salaries and extraordinary expenses allowed to constables are to be under the control of the watch-committee, subject to the approval of the council, and are to be paid by the treasurer of the borough.

Rewards for extraordinary diligence and exertion, and compensation for wounds or injuries, or long services, such as disable from further service, may also be granted by the same authority. (Sec. 82.)

By 11 and 12 Vic., c. 14, a borough police superannuation fund is authorised to be established. (Sec. 1.) It is to be supported by deducting a certain sum, not exceeding one thirty-sixth, from the weekly allowance of the police force, clothing excepted,—by the fines imposed upon them for misconduct,—the produce of the sale of their worn-out clothing,—and by the costs of serving summonses, &c. Certain rates of superannuation and retiring allowance are prescribed (11 and 12 Vic., c. 14, ss. 2, 3, 4, and 5), and other provisions are made by the Act. A police superannuation fund has been established in the borough of Portsmouth. On the 31st August, 1850, the fund amounted to 55*l.* 12*s.* 4*d.*; and 31st August, 1852, to 450*l.* Any two or more borough justices are required, in the month of October in every year, to appoint, from among the inhabitants, special constables, to act when called upon by warrant from justices of the peace. Every one so appointed is to take an oath prescribed by 1 and 2 Wm. IV., c. 41, and to have the powers and immunities, and to be subject to the duties and penalties, specified in that Act. Such person, while in active service, is to receive 3*s.* 6*d.* per day, from the borough fund. (Sec. 83.) On notice being published of the appointment of constables, so much of any local acts in force as related to the constables, watchmen, patrol, or police of the borough, was to cease; and the watch-boxes, watch-houses, arms, accoutrements, and necessities of the old body were to be given up for the use of the new. Any one refusing to give up such property, might be fined in a summary manner before two justices, in any sum not exceeding 5*l.* (Sec. 84.)



The watch-committee are to transmit a report, quarterly, to one of Police. Her Majesty's Principal Secretaries of State, as to the condition of the police force, their accoutrements, the number and locality of the station-houses, and also a copy of their rules. (Sec. 86.)

Power is given to the council to order parts of a borough, not within a local act for lighting, to be included in such Act; such part is then to be lighted in the same manner as the other parts of the borough, and the rates are to be levied in the same proportion as in other parts of the borough. (Sec. 87.)

The council may assume the powers of inspectors, under 3 and 4 Wm. IV., c. 90, for lighting any part of the borough, not within a local act for lighting the same, and may fix the amount of rate to be levied therein, not to exceed six-pence in the pound on the annual value of the property. (Sec. 88.) The town council of Portsmouth are exerting this authority to light an extensive district beyond the walls of the garrison. The Act is not to interfere with the internal regulations of dockyards, arsenals, &c. (Sec. 89.)

The expenses of prosecutions at the assizes, of any offences committed within the borough, are to be paid for out of the borough fund, and orders for payment are to be directed to the treasurer of the borough. (Sec. 103.)

The treasurer of the county is to keep an account of the expenses of the prosecution, maintenance, punishment, conveyance, and transport of offenders sent by boroughs, having separate courts of quarter sessions, for trial at the assizes (sec. 114) or quarter sessions (5 and 6 Vic., c. 98, s. 18), and make order on them for the payment thereof; and in case of a dispute arising, a judge of assize may direct a reference to the arbitration of a barrister, according to the provisions of 5 Geo. IV., c. 85, ss. 1, 2. Power, however, is given to the town council to contract with the county justices for payment of such expenses. (Sec. 114.)

County justices may contract with the justices of any adjoining borough, having a gaol, for the committal of county prisoners thereto, and, if there be a separate court of quarter sessions in the borough, such offenders may be tried there. (6 and 7 Wm. IV., c. 105, s. 1.)

There is a gaol and house of correction in the borough of Ports- Gaol. mouth. The ordinary number of prisoners averages from 50 to 60.

By 7 Wm. IV. and 1 Vic., c. 78, s. 37, councils of boroughs are to have the same powers which justices in general or quarter sessions had, in relation to the building, &c., of gaols; but the expediency of any act to be done by such council under this provision must be certified by the recorder, and any rules for the government of prisoners in the gaol are to be approved by two borough justices before being sent to the Secretary of State.

The council are to have the same powers, under 4 Geo. IV., c. 64, and 5 Geo. IV., c. 85, that justices of the peace have at their sessions in counties, as to building, repairing, and regulating gaols and houses of correction, for which purpose they are required, by 7 Wm. IV. and 1 Vic., c. 78, s. 38, to hold a quarterly session at the usual times of holding quarterly sessions of the peace; but no order of theirs, requiring an outlay of money, is to be of force until confirmed by the council. See also 5 and 6 Vic., c. 53, entitled an "Act to encourage the esta-

blishment of District Courts and Prisons;" 5 and 6 Vic., c. 98, "An Act to amend the laws concerning Prisons, facilitating the raising of money in boroughs for the building, maintaining, &c., of Prisons;" and 11 and 12 Vic., c. 39, entitled, "An Act to facilitate the raising of money by Corporate Bodies for building or repairing Prisons."

Charter of 3  
Charles I.  
Clerk of the  
Peace and  
Common  
Clerk, ap-  
pointment of.

That the mayor and aldermen might, from time to time, elect a common clerk, to continue in office as long as he should well conduct himself, such common clerk to be also clerk of the peace. That he should, before entering on the performance of his duties, take an oath before the mayor for the time being, for their due execution.

Clerk of the  
Market.

That the mayor, for the time being, should be clerk of the markets, and should not, in the exercise of the duties belonging to that office, be interrupted by the crown or its ministers.

Sergeants at  
Mace.

That there should be two serjeants-at-mace, to serve in the said court of record, for the performance of the business to the said court belonging, that they should be appointed by the mayor for the time being, and be sworn before him duly to execute the duties of their office, and that they should hold their office during the pleasure of the mayor for the time being, and that they should carry before him the maces customary in the borough.

That the mayor, recorder, or aldermen, without any further commission or warrant, should be empowered to administer the oaths thereinbefore directed to be taken before them respectively.

Municipal  
Corporations  
Act.  
Town Clerk,  
appointment  
of.  
Treasurer, ap-  
pointment of.  
Other officers  
and functions.

By sec. 58, the council are to elect a town-clerk, who may be an attorney of one of the superior courts, to hold office during pleasure. Also a treasurer, to hold office during the pleasure of the council for the time being. (6 and 7 Vic., c. 89, s. 6.) Neither officer is to be a member of the council. They have also power to appoint any other officers, who have been usually appointed, or who may be deemed necessary; to take security for the due discharge of their official duties, to pay them reasonable salaries, to fill up vacancies in such offices, and to discontinue unnecessary appointments.

The treasurer is to pay no money, except when empowered by the Act, unless by order of the council, signed by three members and countersigned by the clerk, or of a borough justice, or of the borough sessions, or in such a case as the county sessions or a county justice might make an order on the county treasurer for payment of money, or for the payment of salaries to any police magistrate or recorder. (Sec. 59.)

By 7 Wm. IV. and 1 Vic. c. 78, s. 44, orders for payment of money out of the borough fund may be removed into the court of Queen's Bench by writ of certiorari.

That the officers appointed by the town council shall, while in office or within three months after vacating office, render a written account of all business entrusted to them, whenever required by the council; and a summary remedy before two justices, by warrant, distress, and sale, is given against officers not accounting, &c.; and also a power of committing to gaol, under certain circumstances; but the power of taking summary proceedings is not to take away the right of action against such officers. (Sec. 60.)

Coroner, ap-  
pointment

The borough is to have a coroner, to be appointed by the council,



to hold office as long as he shall well behave himself. In case of vacancy in the office, the council are to supply it within ten days. The coroner is to have 1*l.* 6*s.* 8*d.*, and a mileage of ninepence from his place of abode, for every inquest held within the borough. He is, on the 1st February in every year, to make a return to one of her Majesty's principal Secretaries of State, of all inquests held by him during the preceding year. (Sec. 63.)

By 6 and 7 Wm. IV., c. 105, s. 6, the coroner in case of illness or unavoidable absence, may, by writing under his hand and seal, appoint a deputy. The mayor, or two justices, are to certify the necessity for such appointment; such certificate is to state the cause of the coroner's absence, if absent, and to be read openly at every inquest jury summoned by such deputy coroner; the particulars of inquests held before such deputy, are to be included in the return to be made to the Secretary of State, directed by sec. 63.

The council were empowered to remove any executive or ministerial officer, who was in office at the time the Act came into operation; but all in the borough of Portsmouth were re-appointed except the town clerk, who was removed on account of ill-health. The only alterations in the salaries of these officers that were made, were in regard to the two serjeants, both of whom had now a fixed salary appointed, in lieu of their former perquisites, and in case of the senior serjeant, of his former smaller salary also; the second serjeant having previously had no salary.

The council were also to have the same remedies for the recovery of monies, papers, &c., from such officers, as are given in sec. 60 against officers appointed under the Act. (Sec. 65.) Any officer continued in, or re-appointed to any office of profit which he held at the time of the passing of the Act, and who should be subsequently removed from such office, for any other cause than such misconduct as warrants the dismissal of an officer who holds office during good behaviour, being authorised to claim compensation of the council (s. 66), application was successfully made to such effect in behalf of the town clerk; his state of health precluding his doing it for himself.

The officers of the borough of Portsmouth, and their salaries, are as follows. They are thus arranged in the abstract of the treasurer's account, published in 1850 :—

Municipal Expenses.

	£	s.	d.	
Town-clerk.....	200	0	0	per annum.
Treasurer (gratuitous) .....				
Town-serjeant .....	25	0	0	„
Town-serjeant .....	10	0	0	„
Town-crier.....	20	0	0	„
Assistant Town-crier .....	5	0	0	„
Gaol.				
Governor .....	200	0	0	„
Matron .....	25	0	0	„
Assistant-matron .....	31	4	0	„
Surgeon .....	31	10	0	„
Chaplain (in 1849) .....	84	0	8	„

(To account for their apparently disproportionate salaries, it may be noticed that the matron is the governor's wife, the assistant-matron has to provide for herself.)

*Prosecutions.*

Clerk of the Peace, fees in 1850 .....	63	16	2	„
(This varies. In 1849 the fees amounted to 123 <i>l.</i> 7 <i>s.</i> 4 <i>d.</i> )				
Clerk to Justices, fees in 1850 .....	101	5	2	„
(In 1849 the amount received by this officer was 105 <i>l.</i> 18 <i>s.</i> 8 <i>d.</i> )				
Recorder.....	67	4	0	„
(This amount, 16 <i>l.</i> 16 <i>s.</i> for every quarter sessions, is merely to defray the travelling and hotel expenses of the Recorder, and cannot properly be considered as a salary.)				
Coroner, fees in 1850.....	131	6	10	„
(The amount of fees payable to this officer depends on the number of inquests held during the year. In 1849 the amount was 201 <i>l.</i> 13 <i>s.</i> 1 <i>d.</i> These sums include the expenses disbursed by the Coroner.)				

*Inspector's Account.*

Inspector of Weights and Measures.....	100	0	0	„
--	-----	---	---	---

*Camber Account.*

Chamberlain .....	150	0	0	„
Wharfinger.....	100	0	0	„
(With house-rent free and the taxes paid for him.)				
Camber-office Clerk .....	50	0	0	„
Two Sub-collectors, each .....	40	0	0	„
Harbour-master, 25 per cent. on dues collected.				

Certain  
officers,  
functions of.

On the 12th March, 1849, a committee was appointed to define the duties of the financial officers of the borough, and to recommend the amount of salary to be paid to them. The following is the report of the committee, with the amendments made by the council on its consideration:—

“Your committee have considered the matters referred to them, and are of opinion that the duties of the respective officers will be properly defined as follows:—

“With reference to the office of corporation steward, the term adopted in the resolution, it will be observed ‘that throughout the definition of the various duties, your committee have retained the ancient name of ‘*Chamberlain*,’ considering that to be the most suitable designation, and the nature of the duties sufficiently indicating the character of the office.

“Your committee also submit, whether it is necessary that the whole time of that officer should be devoted to the duties assigned to him, their opinion being, that an efficient and proper discharge of the duties may be insured without requiring that undivided attention be given to their performance. Should the council, upon further consideration, concur in these views, a reduction of 50*l.* in the amount of salary may be made without, in the opinion of your committee, in any way impairing the efficiency of the office.

“*Treasurer's duties.*—He will in future receive no monies except through the hands of the chamberlain, other than such as are made



payable expressly to him.—To pay no monies on account of the mayor, aldermen, and burgesses, except as provided by the Municipal Corporations Act, or upon the order of the council, signed by three members of the council, and countersigned by the town clerk, or by order of the court of quarter sessions, or of a justice of the peace, acting in the discharge of his judicial duty, in such cases as are provided by law, or in such cases as the chamberlain is hereinafter authorised to draw upon him.—To enter in a book, to be kept for that purpose, true accounts of all sums of money by him received and paid, and of the several matters for which such sums shall have been received and paid, keeping distinct the account of monies arising from the sale or enfranchisement of property.—To keep a separate account of all monies received, paid, laid out, and expended on account of the Camber Act, distinguishing the sums received by the chamberlain, from the clerk, the harbour-master, and collectors, and whether for wharfage, harbour, or tonnage dues, and to keep such other accounts as may at any time hereafter be directed.—He is to keep a separate account of all monies received on account of the police superannuation fund.—To submit his accounts, with all vouchers and papers relating thereto, in the months of March and September, to the auditors of the borough, for the purpose of being examined and audited, pursuant to the provisions of the Municipal Corporations Act, and in addition thereto, to submit all such accounts and vouchers, when required, to the finance or audit committees of the council.—He will prepare, and submit to the finance committee, a week before each quarterly meeting, a balance-sheet, showing in an abstract form, under the different heads, the monies received and paid during the quarter, and the outstanding liabilities and assets. In the month of September, in every year, he will make out and cause to be printed, a full, clear, and comprehensive abstract of his accounts, for the year ending the 31st of August then last.

Certain  
officers,  
functions of.

“To enter into a bond, with approved sureties, in the sum of 1000*l.*, for the faithful execution of his office, and for the duly accounting for all monies received by him on account of the mayor, aldermen, or burgesses.

“*Your committee recommend that the treasurer be paid a salary of 50*l.* per annum.*

“*Duties of chamberlain.*—To collect and get in all such wharfage and other debts, as may be carried to account, and the rents of the corporate property, and to give his constant and undivided supervision over the wharfinger and subordinate officers, so as to ensure an active and proper discharge of their several duties. He will make a daily examination of their accounts, receiving from them at such time the monies in their hands, and paying the same over daily to the treasurer of the borough.—He will enter all monies thus received and paid, in a cash-book, to be provided and kept by him for that purpose, distinguishing under the several heads to which they belong, the monies received. As he is to exercise a general superintendence over the subordinate officers, he is empowered to suspend any one for neglect of duty or misconduct; but in every case of suspension, he will make a minute of the same, in a book to be kept for that purpose, and report thereon to the mayor with as little delay as possible, in order that a proper inquiry may be instituted.

Certain  
officers,  
functions of.

"He will pay all weekly wages, and, for that purpose, he is authorised to draw upon the treasurer, from time to time, for such amount as shall be required, on producing his wages-book; and each person, on receiving the amount due to him, shall sign such book opposite the sum set against his name. He will submit his accounts, with all necessary vouchers, to the finance and audit committees of the council whenever required so to do. He will prepare and keep a complete and accurate roll of all the corporate property, with the rental of the same. He will examine any applications for lease or enfranchisement, previously to the same being brought before the council; and, generally, he will watch over and manage the borough property, directing a strict attention at all times to the preservation of the corporate rights. He is authorised to order necessary repairs, or materials, or things required for use at the wharfs or otherwise, to an amount not exceeding 5*l.* in any one month, entering every order so given by him in an order-book, which he will produce to the finance or audit committee, at the time of the audit of the account to which it may refer. In any case of expenditure exceeding 5*l.*, he will submit the same to the finance committee. He will be required to attend the meetings of the finance and audit committees. He is not to carry on, or be concerned directly or indirectly in, any other business. He shall make a quarterly return of all outstanding dues.

"For the due execution of his office, and for the faithfully accounting for all monies received by him, he shall enter into a bond, with approved sureties, in the sum of 500*l.*, such bond to be executed before entering on the office.

"*Your committee recommend that the chamberlain be paid 150*l.*, subject to reconsideration by the council, of the question as to his devoting his whole time to the office.*

"*Wharfinger's Duties.*—The wharfinger's attention is in future confined to the keeping of the accounts, and the performance of such duties as appertain to the general management of the wharfs, including the superintendence of the weighbridge. It shall be no part of his duty to collect or receive monies, but in case of any payment being made to him, he is to pay the same over immediately to the clerk at the office.

"He will strictly enforce clause 78 of the Camber Act, which requires masters of vessels, within twenty-four hours after arrival, or previous to departure, to deliver an account in writing of any goods intended to be landed or shipped within the limits of the borough. He will attend to the berthing of every vessel arriving in the Camber without delay; but he will permit no collier vessel to lie at a crane berth, if required for a vessel having goods to be craned. On a vessel having finished discharging, he will enter the manifest or other account which shall have been furnished to him, pursuant to clause 78 of the Act. He will suffer no vessel to leave the Camber, until the dues shall have been paid. He will have the charge and superintendence of the cranes, Camber bridge, and weighbridge, and be responsible for the same being in proper order. He will also have the charge of all planks, tressles, slings, pulleys, tackle, and gear of every description used in and about the wharfs, and the direction of the servants employed thereat.



“He will permit no vessel, barge, or boat to be built, repaired, or broken up on the Hard, on the west side of the Inner Camber, nor allow the ground to be broken up, without special permission for that purpose having been first obtained from the chamberlain. Certain officers, functions of.

“He will make up, periodically, as directed, a separate account of the dues on coal and corn. He is to have his books at all times ready for the inspection and examination of the chamberlain, and of the finance and audit committees of the town council, with all vouchers relating thereto. That the provisions of the Camber Act for prevention of nuisances be strictly enforced, and that he direct particular attention to ballasting of vessels, and see that proper ballasting-cloths are used. He is not to carry on, or be concerned, directly or indirectly, in any other business or occupation, and to reside in the house appointed for him on the quay. He shall enter into a bond, with approved sureties, in the sum of 250*l.* for the faithful discharge of the duties of his office, and for the accounting for any monies which may come to his hands, such bond to be executed before entering on the office.

“*Your Committee recommend that the wharfinger be paid a salary of 100*l.* per annum.*

“*Duties of Harbour-Master.*—To enter daily the arrival and departure of all vessels, in a book to be kept for that purpose at the wharfinger’s office. He will give a receipt to every person paying harbour dues, entering on the counter-check of the receipt the date of payment, name of the vessel, her tonnage, and the amount paid.

“He will pay over daily to the clerk at the office all monies which shall have been received by him, producing, at such time, his receipt-book. In any case of nonpayment he will render an account of the same, in order that the dues may be regularly charged against the proper party, in the books of the office. He will attend to the mooring and anchoring of vessels within the Outer Camber, so as to preserve, at all times, a free passage in and out of the same. He shall submit his accounts, at such times as may be hereafter directed, to the finance or audit committee. He is not to engage in any other business or occupation. He shall enter into a bond, with approved sureties, in the sum of 100*l.*, for the faithful discharge of the duties of his office, and for the accounting for all monies received by him; such bond to be executed before entering on the office.

“*Your Committee recommend that the harbour-master receive, as a remuneration, 25 per cent., on the dues collected by him.*

“*Duties of Clerk.*—He will receive all monies paid at the office, entering every payment at the time in his cash-book, which he will make up at the close of each day’s business, and pay over to the chamberlain the monies then in his hands. In addition to the foregoing, he will assist generally in the keeping of the accounts. He shall enter into a bond, with approved sureties, in the sum of 100*l.*, for the faithful discharge of the duties of his office, and for the accounting for all monies received by him; such bond to be executed before entering on the office.

“*Your Committee recommend that the salary to be paid to the clerk be 50*l.* per annum.*

“*Duties of Sub-Collector.*—Each collector will receive the dues

Certain  
officers,  
functions of.

payable within the district assigned to him, for which purpose he will be provided with a receipt-book, with counter-check, which he shall produce daily to the clerk at the office, paying over to him all monies which have been received, and rendering an account of any dues chargeable which may not have been paid, in order that the proper party may be debited with the amount.

"No. 1 district.—To include the Point, the Common Hard, and Albert Pier.

"No. 2 district.—To include the New Buildings, Flathouse, Rudmore, and Tipner. The sub-collector of the latter district to collect the street and market tolls.

"Each sub-collector shall enter into a bond, with approved sureties, in the sum of 50*l.*, for the faithful discharge of the duties of his office, and for the accounting for all monies received by him, such bond to be executed before entering on the office.

"*Your Committee recommend that each sub-collector be paid a salary of 40*l.* per annum.*

*"Signed, on behalf of the Committee,*

*"March 27th, 1849."*

*"EDWARD CASHIER."*

Charter of 3  
Charles I.  
Mayor, &c.,  
to have an  
Assize of  
Bread, &c.,  
also all Fines,  
&c.

That the mayor, aldermen, and burgesses, through the mayor, should have an assize and assay of bread and ale, and the punishment and correction of the same, and the amerciaments of all men therein. And that they should have all fines in the said court of record, and court-leet or views of frankpledge, and before the justices of the peace and the clerk of the market, and all manner of forfeitures of felons and outlaws within the said borough, with no impediment from the crown, its officers, or ministers.

Municipal  
Corporations  
Act.  
Appropriation  
of Fines, &c.

By sec. 126, it is provided that where, by any act, penalties and forfeitures, upon summary convictions, were made payable to Her Majesty, or to any body corporate, or to any person whomsoever, the same are now, when adjudged before the borough justices, to go to the borough fund, except when the same are made payable to a common informer, or are recovered under any act relating to the customs, excise, post-office, or to trade or navigation, or to any branch of Her Majesty's revenue.

By sec. 21, the fines imposed upon jurors for non-attendance at the court of quarter sessions, or for withdrawing from it, are to go to the borough fund.

Charter of 3  
Charles I.  
Burgesses,  
&c., to be free  
from toll.  
And free from  
serving on  
County Juries.

That the burgesses and inhabitants should for ever be free of all toll, and of secular exactions, by sea and land, as theretofore.

That the mayor, aldermen, burgesses, inhabitants, and residents should be exempt from serving on juries for the county of Southampton, or out of the borough, except to decide any matter which might have arisen within the borough.

Municipal  
Corporations  
Act.  
Freedom from  
serving on cer-  
tain Juries.

By sec. 122, members of the town council, borough justices, the treasurer, and town clerk, are exempted from serving on borough juries, and burgesses are also exempted from serving on juries at the general or quarter sessions in the county.



That the mayor, aldermen, and burgesses might have a merchant guild within the borough, as they had been accustomed to have. The Guildhall formerly stood in the midst of the thoroughfare of the High-street of Portsmouth, but being cleared away in the year 1838, a new one was erected in a line with the houses forming the south-east side. This is now used for the county court.

Charter of 3  
Charles I.  
Guildhall.

That they might have a yearly fair or mart, with all the tolls and emoluments thereunto appertaining, to commence at St. Peter's ad Vincula, and to continue for fourteen days, according to the tenor of certain letters patent granted by King Richard II., in the 8th year of his reign, to the men of Portsmouth; but that a certain other fair, accustomed to be held for fifteen days, from the 1st of August in every year, should be relinquished. This fair was, no doubt, granted for the purpose of benefiting the inhabitants by increasing their trade; but, of late years, it had not only entirely failed in that object, but had, in fact, injured the inhabitants, by drawing into the place a number of dissipated and low characters, by causing great confusion and noise in the principal quarter of the borough, and by increasing the number of smaller offences. These abuses induced the inhabitants to petition parliament for its abolition, which was accomplished by a clause introduced into the last Portsmouth Improvement Act, 11 Vic., c. 257, passed in the year 1848.

Fair.

That the mayor for the time being, and one justice, might register all deeds touching real property within the borough. No such registry at present exists within the borough.

Registry of  
Deeds.

That the mayor and clerk might take recognizances for debts, and make executions thereof, according to the form of the statute of merchants and the statute of Acton Burnell; that for this purpose there should be a seal, wherewith to seal the said recognizances, to be divided into two parts, the greater part to be called the seal of the crown; and that one part should be kept by the mayor, and the other by the clerk of the recognizances.

Recogni-  
zances for  
debts to be  
taken by  
Mayor and  
Clerk.

That John Hendrye, the then common clerk of the borough, should be the clerk of the recognizances during good behaviour. That, after his death, the common clerk for the time being should be clerk of the recognizances, and perform the various duties of that office.

There is no such officer or office now in the borough of Portsmouth. Recognizances in the nature of a statute merchant are now very rare.

That the inhabitants of the said borough might weave, work, and make all manner of broad-cloths and kersies, and sell and export the same in manner agreeable to the laws.

Liberty to  
make broad  
cloths, &c.

That the mayor, aldermen, and burgesses might purchase real property which was not holden of the crown *in capite*, or by knights' service, provided the annual value thereof did not exceed 20*l.* beyond all charges, reprises, and expenses. And also that any of the subjects of the crown might dispose of real property to the said mayor, aldermen, and burgesses, except such as was held of the crown *in capite*, or by knights' service, so that the same did not exceed 20*l.* per annum beyond all charges and reprises. This clause does not appear to have

Power to pur-  
chase land.

been altered by the Municipal Corporations or any subsequent Act. The corporation could not, without this license, hold lands purchased by them, by reason of the Laws of Mortmain.

Power to take groundage, anchorage, customs, dues, &c. That the mayor, aldermen, and burgesses might take the same groundage and anchorage for all vessels casting anchor, laden, or to be discharged, on the wharf of the borough of Portsmouth, and the same customs for goods and merchandize there laden or to be discharged, as the said corporation had been accustomed to receive, and take the same, without interruption from the crown or its officers.

Improvement of Camber.

In 1839, 2 and 3 Vic., c. 72, entitled, "An Act for enlarging the town quay of the borough of Portsmouth, and for improving that portion of the harbour of Portsmouth called the Camber," was passed; giving power to the corporation to purchase and hold lands for the purpose, to make bye-laws for the regulation of the Camber, to take tonnage dues from vessels lading and unlading therein, and also wharfage dues on goods landed within the borough. New harbour dues are appointed to be received by them in lieu of the old harbour dues and bushelage for groundage and anchorage. Schedules are annexed to the Act, giving rates of dues, &c. Under this Act the Camber was greatly improved, and the quay bordering upon it enlarged by the town council.

In the year ending August 31st, 1850, the amount received for dues, &c., was 3,700*l.* 2*s.* 7*d.*, and 50*l.* the rent of a building-slip in the Camber. In the same year the balance in hand on the Camber account amounted to 1,137*l.* 13*s.* 0*d.*

Charter of 3 Charles I. Confirmation of lands held of the Crown.

That the lands thereafter to be acquired as well as the lands already belonging to the corporation, were thereby confirmed unto the said corporation, to hold of the crown, fee-farm by fealty only, in free and common soccage, the rent in the place and manner accustomed.

Confirmation of fairs, tolls, &c.

That the fairs, tolls, and franchises then enjoyed by the mayor, aldermen, and burgesses, or which they were entitled to enjoy, were thereby confirmed to them, on condition of their rendering the rents and services accustomed, and that they should receive no interruption from the crown.

That nothing therein contained should prejudice the rights and privileges of the Earl of Pembroke, Steward of the Household, and Captain of Portsmouth, or of any of his successors.

Municipal Corporations Act. Borough expenses, how defrayed.

No regulations were made by the charter for defraying the expenses of the borough. In the Municipal Corporations and other Acts we find the following regulations:—

All corporate property and all fines are to be received by the treasurer, and to be by him carried to the account of the borough fund, which fund is to be applied towards payment of debts, the salaries of the recorder, town clerk, treasurer, and other officers, the costs of preparing and printing the burgess and ward lists, and notices, and other election expenses, also the expenses incident to the borough court of quarter sessions, and the prosecution, maintenance, and punishment of prisoners; the expenses of the borough gaol, house of correction, and corporate buildings, and all other corporate expenses not otherwise provided for by the Act, and the payment of the constables.



The surplus, if any, is to be applied, under the direction of the council, for the benefit of the inhabitants, and improvements of the borough. If the borough fund be insufficient, the council are to order a rate to make up the deficiency, and for that purpose they are to have the same powers as justices in general or quarter sessions have to make a county rate, under 55 Geo. III., c. 51, s. 92. Under certain circumstances a watch rate may be levied. By 7 Wm. IV., and 1 Vic., c. 78, s. 44, orders of the council for the payment of money may be removed into the Court of Queen's Bench by certiorari. By the 12th sec. of 55 Geo. III., c. 51, three distinct powers are given:—1st, the power of the justices in sessions to make the rate, and issue warrants for its collection by the high constable; 2nd, the power given to the justices out of sessions to issue a warrant for the levy of the rate upon the goods of any overseer, &c., refusing to pay the assessment to the high constable; and 3rd, the power to the overseers, or persons appointed to act as such, to levy by rate the sum assessed, or to reimburse themselves by a special rate to such amount as they shall have paid on account of the county rate.

Municipal  
Corporations  
Act.

But the 92nd sec. of the Municipal Corporations Act, though it gives the same powers to the council to make the rate, and confers upon the mayor the power of levying by distress the assessment upon the overseers and other collectors of rates, makes no express provisions authorising the overseers of the poor to pay such assessment out of the poor-rate, or to make any special rate to repay themselves the amount paid over to the borough rate; and doubts having arisen, whether, in the absence of any such express provisions, the overseers would be justified in so applying the rates in their hands, or in levying a special rate to reimburse themselves, according to the provisions of the County Rate Act, 7 Wm. IV., 1 Vic. c. 81, was passed, the 1st sec. of which, after reciting that no authority was given by 5 and 6 Wm. IV., c. 76, to the churchwardens and overseers, or other persons who might thereby be legally ordered to pay or levy such rates, to pay the same out of the poor-rates of such parishes or places, or otherwise to levy the same upon the inhabitants thereof, authorised the council to order the overseers to pay the assessment of the borough rate out of the poor-rate, or to make and collect a pound-rate for the purpose. And inasmuch as this provision would not apply to extra-parochial places, or to parishes or townships partly within and partly without the borough, the 3rd sec. expressly provides for such cases, and thus the borough rate and county rate appeared to be placed on the same footing for the future, in respect to extra-parochial places and divided parishes. The case of divided parishes and places is now further provided for by 12 and 13 Vic., c. 65, by the 6th sec. of which so much of this act as applies to the making, levying, and collecting the county and borough rates in divided parishes or places, is repealed, except as to rates theretofore made, levied, and collected. (Rawlinson's Municipal Corporations Act, by Welsby, 358, n. 1.)

By 6 and 7 Wm. IV., c. 104, s. 5, the mayor may issue his warrant for levying a borough rate or watch rate, in any case where county justices might issue their warrants for a like purpose. Provisions are made for the better collecting of borough and watch rates in certain places by 8 and 9 Vic., c. 110.

Municipal  
Corporations  
Act.

By 12 and 13 Vic., c. 82, boroughs having and providing a gaol and house of correction, and boroughs having a pauper lunatic asylum, are not to be liable to contribute towards the county gaol and house of correction or county lunatic asylum. The borough of Portsmouth has no pauper lunatic asylum.

Rates in arrear, and rates to pay debts contracted before the passing of the Act, might be collected as if the Act had not passed. (Sec. 85.)

By 2 and 3 Vic., c. 28, and 3 and 4 Vic., c. 28, provisions are made for more equally assessing and levying watch-rates.

By 4 and 5 Vic., c. 48, the property of municipal corporations, with certain exceptions, is rendered liable to contribute towards poor-rates.

Accounts of receipts and disbursements are to be kept, audited by the auditors appointed under sec. 37, and published. (Sec. 93.) By 6 and 7 Wm. IV., c. 104, s. 10, and 7 Wm. IV. and 1 Vic., c. 78, s. 43, the council are every year to transmit such account, made up to the last period of audit, to one of Her Majesty's Principal Secretaries of State. And an abstract of such accounts, under general heads, is to be laid before both houses of parliament, during their sittings, in the year in which they are transmitted to the Secretary of State.

By sec. 112, boroughs having separate courts of quarter sessions are to send a copy of the grant of such court to the county clerk, after which such borough is not to contribute towards county rates.

Sections 127, 128, 129, 130, 131, 132, and 133 contain provisions for summary convictions for offences committed against the Act, for preventing convictions and other proceedings being quashed for want of form, and as to actions brought against persons for anything done by them in pursuance of the Act.

In 1845, an act was passed (8 and 9 Vic., c. 43) enabling the town council of any borough the population of which exceeds 10,000 persons, to establish a museum of art in the borough under certain regulations; but no such museum has been established by the town council of the borough of Portsmouth.

#### *List of Local Acts.*

14 Geo. 2, chap. 43.—An Act to enable Thomas Smith, Esquire, lord of the manor of Farlington, in the county of Southampton, to supply the town of Portsmouth, and parts adjacent, with good and wholesome water, at his own proper costs and charges.

4 Geo. 3, chap. 92.—An Act for the better paving of the streets and lanes, and for preventing nuisances and other annoyances in that part of the parish of Portsea, in the county of Southampton, commonly called Portsmouth-common.

8 Geo. 3, chap. 62.—An Act for the better paving and cleansing the streets and other public passages in the town of Portsmouth, in the county of Southampton, and for preventing nuisances and annoyances therein, and for widening and rendering the same more commodious.

16 Geo. 3, chap. 59.—An Act for lighting and watching the town of Portsmouth, in the county of Southampton, and for explaining and amending an Act passed in the 8th year of his present Majesty's reign, for the better paving and cleansing the streets and other public pas-

Summary  
Convictions  
for Offences  
against the  
Act.

Museum of  
Art.



sages in the said town, and for preventing nuisances and annoyances therein, and for widening and rendering the same more commodious.

24 Geo. 3, chap. 19.—An Act for the settling the rates for the carriage of passengers and goods for hire to and from the Isle of Wight.

25 Geo. 3, chap. 24.—(Private.)—An Act for dividing and inclosing the commons and waste lands called Frodington, otherwise Fraddington, otherwise Fratton-common, and Southsea-common, and wastes, in the guildable part of the parish of Portsea, and county of Southampton.

32 Geo. 3, chap. 103.—An Act for the better paving, cleansing, widening, and regulating the streets, courts, roads, lanes, ways, rows, alleys, and public passages and places, within the town of Portsea, in the county of Southampton; and for removing and preventing nuisances, annoyances, and obstructions within the said town.

45 Geo. 3, chap. 44.—(Local and Personal, Public.)—An Act for building a new gaol in the borough of Portsmouth, in the county of Southampton.

49 Geo. 3, chap. 118.—(Local and Personal, Public.)—An Act for better supplying with water the borough of Portsmouth, and the parishes of Portsmouth and Portsea, and places adjacent, in the county of Southampton.

49 Geo. 3, chap. 130.—(Local and Personal, Public.)—An Act for the better government of the watermen working on the passage between Gosport, Portsmouth, and Portsea, and other places within Portsmouth harbour, and to and from Spithead and Saint Helen's, and other parts within the Isle of Wight, in the county of Southampton, and to and from certain places in the said island, and for regulating the fares of such watermen.

50 Geo. 3, chap. 46.—(Local and Personal.)—An Act for inclosing lands in the parish of Portsea, in the county of Southampton.

50 Geo. 3, chap. 218.—(Local and Personal, Public.)—An Act for disafforesting the forest of South, otherwise East Bere, otherwise Bier, in the county of Southampton, and for inclosing the open commonable lands within the said forest.

52 Geo. 3, chap. 78.—(Local and Personal, Public.)—An Act to amend an Act made in the 49th year of his present Majesty, for the better government of the watermen working on the passage between Gosport, Portsmouth, and Portsea, and other places within Portsmouth harbour, and to and from Spithead and Saint Helen's, and other parts within the said Isle of Wight, in the county of Southampton, and to and from certain places in the said island, and for regulating the fares of such watermen.

57 Geo. 3, chap. 42.—(Private.)—An Act for inclosing lands in the parish of Portsea, in the county of Southampton.

57 Geo. 3, chap. 63.—(Local and Personal, Public.)—An Act for making and maintaining a navigable canal from the river Arun to Chichester harbour, and from thence to Langstone and Portsmouth harbours, with a cut or branch from Hunston-common to or near the city of Chichester, and for improving the navigation of the harbour of Langstone, and channels of Langstone and Thorney.

2 Geo. 4, chap. 62.—(Local and Personal, Public.)—An Act for giving further power to the company of proprietors of the river Arun

navigation, and for confirming certain agreements entered into between the said company and the company of proprietors of the Portsmouth and Arundel navigation.

2 Geo. 4, chap. 73.—(Local and Personal, Public.)—An Act for incorporating the town of Portsea Gas Light Company.

7 Geo. 4, chap. 64.—(Local and Personal, Public.)—An Act for better lighting and watching the town of Portsea, in the county of Southampton, and for amending an Act passed in the 32nd year of his late Majesty, for paving, cleansing, and regulating the streets and public places within the said borough, and removing and preventing nuisances and annoyances therein.

7 and 8 Geo. 4, chap. 38.—(Local and Personal, Public.)—An Act for enabling the company of proprietors of the Portsea Island Waterworks to raise a further sum of money; and for the purposes relating to the said undertaking.

2 and 3 Vic. chap. 72.—(Public Act.)—An Act for enlarging the town quay of the borough of Portsmouth, or for improving that portion of the harbour of Portsmouth, called the Camber.

6 Vic., chap. not specified, passed in sess. 1843.—(Local and Personal, Public.)—An Act for paving, lighting, cleansing, watering, regulating, and otherwise improving the town of Portsea, in the county of Southampton, and for removing and preventing nuisances and annoyances therein.

11 Vic., chap. 257.—(Local and Personal, Public.)—An Act for paving, lighting, cleansing, watering, regulating, and otherwise improving the town of Portsmouth, in the county of Southampton, and for removing and preventing nuisances and annoyances therein.

*(The two last are the governing Acts.)*

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[The history and statistics of the Dockyard, and the statistics of the population of the island of Portsea will be published in the next number of this journal.]

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## MISCELLANEA.

## CRIME IN ENGLAND AND WALES IN 1851.

*(Compiled from the Criminal Tables.)*

THE chief interest which attaches to the Commitments for Trial in the year 1851 is the stationary character which they present, as compared to their previous constant increase, and the circumstance that the maximum amount which they have yet attained now dates ten years back, the commitments in the year 1842 having exceeded those of the last year by no less than 10·7 per cent. Nor is this statement opposed to the fact, that in the last year, as compared with the year preceding, the commitments have increased by 1,147 persons, or 4·2 per cent., for the commitments in 1851 are still under the *average* of the ten last years.

The subjoined statement gives the number of commitments for trial in each year from 1834 to 1851 inclusive:—

Years.	Commitments.	Years.	Commitments.	Years.	Commitments.
1834.....	22,451	1840.....	27,187	1846.....	25,107
1835.....	20,731	1841.....	27,760	1847.....	28,833
1836.....	20,948	1842.....	31,309	1848.....	30,349
1837.....	23,612	1843.....	29,591	1849.....	27,816
1838.....	23,094	1844.....	26,542	1850.....	26,813
1839.....	24,443	1845.....	24,303	1851.....	27,960

The increase of 4·2 per cent. in the year 1851 has not been confined to any particular localities, but extends generally over England and Wales, including the chief agricultural and the largest manufacturing and commercial counties.

The commitments in 1841 were in the proportion of 1 in every 573 of the population, while in 1851, the proportion is reduced to 1 in 641. Between these periods the population increased 12·6 per cent., while the commitments remained almost stationary.

But the relative progress of population and crime has varied considerably in different parts of England. In the large northern counties of York and Lancaster, the seats of the woollen and cotton manufacture, the proportion of the commitments to the population has decreased in the last ten years from 1 in 554 to 1 in 685; the population having increased not less than 18·2 per cent., while the commitments have simultaneously decreased 4·3 per cent. In Cheshire, Derbyshire, Nottinghamshire, and Leicestershire, where, mixed with a considerable agricultural population, the chief silk, lace, and the lesser mixed textile fabrics are produced, the proportion of the commitments have decreased from 1 in 579 to 1 in 633; the population having increased 7 per cent., and the commitments decreased 2 per cent. In Staffordshire, Warwickshire, and Worcestershire, where the chief manufactures in hardware, pottery, and glass are carried on, the commitments have decreased from 1 in 435 of the population to 1 in 552; the population having increased 20·4 per cent., and the commitments decreased 5 per cent.

In the purely agricultural counties the results are less favourable. In the eastern district, comprising Essex, Norfolk, Suffolk,

and Lincoln, the proportion of the commitments has increased in the same period from 1 in 669 to 1 in 604; the increase of the population being 6·8 per cent., and the commitments 18·4 per cent. Of the seven chief midland agricultural counties, Cambridge, Northampton, Bedford, Hertford, Oxford, Bucks, and Berks, the proportion of the commitments has decreased from 1 in 572 to 1 in 620; the increase of the population being 10·3 per cent., and the commitments 1·8 per cent. only. In the counties in the south and south-west: Hants, Wilts, Dorset, and Somerset, the results prove more favourable than in any other of the agricultural districts; the proportion of the commitments to the population having decreased from 1 in 508 to 1 in 651; in these counties the population has increased 12·5 per cent., and the commitments decreased 12·1 per cent.

On a comparison of the offences upon which the increase of the commitments in 1851, as compared with the previous year, has arisen, it will be seen that the increase has extended to each of the classes of crime, with the exception of the sixth class, comprising the miscellaneous offences.

In the 1st class—*Offences against the Person*—the commitments for murder, attempts to murder, wounding, &c., remain stationary. Unnatural offences, however, show an increase in the year, and a slight gradual increase during the last five years. The increase of the class arises, however, on the lesser offences of assault, and assault on peace officers, and has been equal to nearly one-fifth of the total increase of the year's commitments.

In the 2nd class—*Offences against Property committed with Violence*—the commitments have been without change, except the marked increase of robbery; the tendency of the whole class, on a more extended comparison, being to increase.

In the 3rd class—*Offences against Property committed without Violence*—which contains the great bulk of the commitments, there is an increase of 3 per cent., arising chiefly in the commitments for larceny from the person, larceny by servants, and frauds.

The 4th class—*Malicious Offences against Property*—comprises comparatively a very small proportion of the commitments; but the numbers, particularly for setting fire to stacks and buildings, exhibit a marked increase. Many recent offences of obstructing railway carriages and machinery are classed under this head, and have contributed to swell the increase of this class. The total commitments in this class show an increase of 29 per cent.

In the 5th class—*Forgery and Offences against the Currency*—there is a considerable increase, to be attributed exclusively to the commitments for uttering counterfeit coin, an offence which has increased 36 per cent. on a comparison of the totals of the two last five years.

In the 6th class—Of the Offences not falling within either of the previous classes—there was a decrease of 14·9 per cent., arising chiefly on the petty offences of riot and breach of the peace; but in perjury the commitments in 1851 were suddenly doubled. Seditious offences and riots are included in this class; and to their entire absence, since 1848, may be attributed the great decrease of the commitments in the class, when the comparison is made on the totals of the two last five years.

The foregoing statements refer simply to the number of commit-



ments. The results of the proceedings were in 1850 and 1851, as follows:—

Result of Proceedings.	1850.	1851.
Not prosecuted, and admitted evidence .....	141	131
No bills found against .....	1,458	1,484
Not guilty on trial .....	4,639	4,744
Total Acquitted and Discharged .....	6,238	6,359
Acquitted on the ground of insanity .....	26	13
Found insane .....	12	9
Total Detained in Custody .....	38	22
Sentenced to death .....	49	70
,, transportation .....	2,578	2,836
,, imprisonment .....	17,602	18,418
,, whipping, fine, &c. ....	307	248
Pardoned without sentence .....	1	7
Total Convicted .....	20,537	21,579
Total Committed .....	26,813	27,960

These results, more in detail, are compared below with the punishments for the last ten years, during which the sentences have not been effected by any statutory changes, except two important alterations in the law of transportation. The first in 1846, by statute 9 and 10 Vict. c. 25, which repealed all the fixed higher periods of transportation, and gave courts power to award sentences of transportation for not less than seven years or imprisonment only, reducing to those lesser punishments a large class of the most serious offences for which the sentence had previously been transportation for life, for 15 years, or for 10 years, as the minimum term. The importance and extent of the remission of punishment under this statute is evidenced by the immediate falling off in the numbers sentenced to those higher grades of punishment, as shown in the statement annexed.

Sentence.	1842.	1843.	1844.	1845.	1846.	1847.	1848.	1849.	1850.	1851.
<i>Death</i> .....	57	97	57	49	56	51	60	66	49	70
<i>Transportation:—</i>										
For Life .....	191	225	180	79	101	46	67	60	84	124
Above 15 years .....	37	46	50	22	29	30	28	31	39	38
Above 10 years .....	726	641	543	405	322	230	291	255	281	217
Above 7 years .....	1,402	1,471	1,126	1,119	946	769	843	933	805	895
7 years .....	1,841	1,800	1,421	1,273	1,407	1,731	2,022	1,565	1,369	1,562
<i>Imprisonment:—</i>										
Above 3 years .....	1	...	1	...	...	...	...	...	...	...
Above 2 years .....	13	2	13	3	2	4	6	...	4	4
Above 1 year .....	464	464	454	360	332	455	513	548	551	591
Above 6 months .....	2,594	2,332	1,927	1,654	1,933	2,355	2,648	2,485	2,770	3,120
6 months and under .....	14,799	13,477	12,574	12,035	12,635	15,498	16,008	14,728	14,277	14,703
Whipped, Fined, and Dis- charged .....	601	531	566	398	372	373	404	330	308	255

The increasing certainty of the criminal proceedings, as evidenced by the diminished proportion acquitted, receives further confirmation from the tables for 1851. The proportion acquitted and discharged was stationary during the years 1843, 1844, and 1845, at 26·8 per cent. It has decreased each subsequent year in the following ratio, viz. :—

1846.....	27·6		1848.....	24·4		1850.....	23·2
1847.....	25·1		1849.....	24·4		1851.....	22·7

The proportion in 1851 is made up of 0·4 not prosecuted, 5·3 no bills found, and 17·0 found not guilty on trial.

The above proportion acquitted forms the average for England and Wales. It is greatly exceeded in some of the smaller counties; and as the certainty of conviction depends both upon the preliminary investigation on commitment and the subsequent conduct of the prosecution, it follows that there would be greater facilities in the more populous districts, where such business becomes the special duty of officers trained to its performance. In Lancashire, for instance, the proportion acquitted is reduced to 17·4 per cent., in Middlesex to 18·5, while in Wales it amounts to the large number of 34·0 per cent.; in the lesser agricultural midland counties of England it is 27·0 per cent., and in the south-western agricultural counties 27·7 per cent.

The nature of the crime is also the cause of a great variation in the proportion acquitted. In some offences the proof is entirely circumstantial; in others the chief and sometimes only witness is the person injured, whose evidence the charge itself leaves open to suspicious inquiry. In offences against property, as compared with offences against the person, the stolen articles form an important auxiliary means of detection and conviction.

In the offences against the person last year, 34·3 per cent. were acquitted; for murder, 16 persons were convicted and 52 acquitted, exclusive of 6 detained as insane; for attempts to murder, maim, &c., the proportion acquitted was nearly 40 per cent.; for rape and attempts to ravish, 56 per cent. In the violent offences against property, the acquittals were 28·8 per cent. In the large class of offences against property, comprising all simple thefts and frauds, the proportion was 20·8 per cent. In the malicious offences against property, which are always attended with great difficulty of proof, the proportion acquitted rises to 58 per cent. The minimum of acquittals takes place in the offences of forgery and offences against the currency; the former usually prosecuted by a powerful private association, and the latter by a Government prosecutor, the Solicitor for the Mint; and the proportion is only 11·5 per cent.

The effect of the statute 12 Vict. c. 11, passed in May, 1849, to repeal the punishment of transportation on a first conviction for simple larceny, is more fully exemplified by the returns for 1851, the second year of its full operation. The foregoing comparative table of the punishments inflicted shows, as might be anticipated, an increase of the more severe sentences of imprisonment, accompanied by an immediate decrease of the numbers sentenced to transportation, but followed by a reactionary increase of the numbers sentenced to that punishment. This might also have been foreseen, for transportation has, of late years,



been rarely inflicted on a *first* conviction of simple larceny, except in extreme cases; and the operation of the Act would lead to greater diligence in proving the former conviction of a known offender, so as to bring transportation in his case within the power of the court. This is shown by the fact, that last year the number sentenced to transportation increased 10 per cent.; and more directly by the following statement of the sentences passed in cases of simple larceny, and offences punishable as such, in the year preceding the important alteration of the punishment, and the two years which have followed:—

Sentence.	1848.	1850.	1851.
Transported for life.....	2	3	5
„ above 15 years .....	1	....	5
„ above 10 years .....	44	30	33
„ above 7 years.....	165	171	228
„ 7 years .....	1,129	609	694
Total Transported.....	1,341	813	965
Total Convicted of Larceny .....	13,813	11,931	12,145

These figures give a proportion sentenced to transportation for simple larceny of 1 in 10·3 in 1848, and 1 in 14·6 in 1850, the year following the repeal of transportation for a first offence; increasing again to 1 in 12·5 in 1851, which is rendered more marked by the greater severity of the sentences in the two last years.

The capital sentences given below are above the yearly average since 1841, when the last alteration of the law abolishing capital punishments took place. This increase arises chiefly on the offences of burglary and robbery, attended with personal violence or injuries.

Offences.	1842.	1843.	1844.	1845.	1846.	1847.	1848.	1849.	1850.	1851.
Murder .....	16	22	21	19	13	19	23	19	11	16
Attempts to murder, attended } by dangerous bodily injuries }	3	9	1	4	9	4	6	12	8	6
Maliciously cutting and } wounding..... }	....	1	....	....	....	....	....	....	....	....
Sodomy .....	12	18	15	15	17	14	18	18	14	18
Burglary, with violence to } persons .....	18	22	4	8	5	5	7	10	5	15
Robbery, attended with wounds } Arson of dwelling-houses, per- }	5	23	14	2	8	9	3	3	10	13
sons being therein .....	2	2	2	1	4	....	3	4	1	2
High treason.....	1	....	....	....	....	....	....	....	....	....
Totals .....	57	97	57	49	56	51	60	66	49	70

Of the 70 persons capitally convicted in 1851, the sentence was recorded against 53; so that the sentence of death was only passed upon 17. Of these, 10 were executed, 2 of them being females.

TABLE I.—*Showing, for each County, the Number of Person*

COUNTIES.	Capital Conviction.				Transportation.				
	Execu- tion.	Commutation.		Free Pardon.	Life.	Above Fifteen Years.	Above Ten Years.	Above Seven Years.	Seven Years.
		Transpor- tation.	Imprison- ment.						
Bedford .....	..	1	..	..	2	..	3	9	4
Berks .....	..	1	..	..	3	..	4	2	24
Bucks .....	..	..	..	..	1	..	..	10	13
Cambridge .....	..	..	..	..	10	..	7	15	30
Chester .....	..	3	..	..	2	1	6	12	69
Cornwall .....	..	1	..	..	4	2	4	8	4
Cumberland .....	..	..	..	..	..	1	2	4	7
Derby .....	..	..	..	..	3	1	5	10	11
Devon .....	..	..	..	..	6	1	4	28	34
Dorset .....	..	..	..	..	5	1	4	6	10
Durham .....	..	..	..	..	1	..	1	9	15
Essex .....	2	1	..	..	1	..	6	16	40
Gloucester* .....	..	3	1	..	6	2	9	14	64
Hereford .....	..	..	..	..	..	..	1	7	12
Hertford .....	..	..	..	..	..	3	8	12	24
Huntingdon .....	..	1	..	..	1	..	..	1	6
Kent .....	..	1	..	..	4	2	13	27	30
Lancaster .....	1	2	..	..	5	6	23	121	228
Leicester .....	..	1	..	..	2	..	3	13	14
Lincoln .....	..	1	..	..	4	..	1	22	27
Middlesex† .....	..	4	..	..	7	2	18	104	287
Monmouth .....	..	4	..	..	3	1	5	11	15
Norfolk .....	1	4	..	..	7	..	2	23	23
Northampton .....	..	1	..	..	1	..	1	7	5
Northumberland .....	..	1	..	..	..	..	5	17	12
Nottingham .....	..	1	..	..	..	..	1	18	31
Oxford .....	..	..	..	..	5	..	4	18	12
Rutland .....	..	..	..	..	..	..	..	1	3
Salop .....	..	1	..	..	..	..	4	7	9
Somerset .....	2	1	..	..	3	1	9	47	41
Southampton .....	..	..	..	..	5	..	7	17	35
Stafford .....	..	1	2	..	11	..	8	45	49
Suffolk .....	2	1	..	..	1	..	6	15	22
Surrey .....	2	1	..	..	5	3	6	37	43
Sussex .....	..	..	..	..	9	2	7	14	21
Warwick .....	..	2	..	..	1	6	8	26	62
Westmoreland .....	..	..	..	..	..	..	..	3	2
Wilts .....	..	1	..	1	..	2	2	14	27
Worcester .....	..	3	..	..	..	..	3	10	35
York .....	..	14	..	..	4	1	14	86	117
Anglesey .....	..	..	..	..	..	..	..	..	4
Brecon .....	..	..	..	..	..	..	..	5	2
Cardigan .....	..	..	..	..	..	..	..	2	1
Carmarthen .....	..	..	..	..	..	..	..	1	2
Carnarvon .....	..	..	..	..	..	..	..	..	1
Denbigh .....	..	..	..	..	..	..	..	3	1
Flint .....	..	..	..	..	..	..	..	3	2
Glamorgan .....	..	..	..	..	2	..	..	10	21
Merioneth .....	..	..	..	..	..	..	3	1	..
Montgomery .....	..	..	..	..	..	..	..	4	..
Pembroke .....	..	..	..	..	..	..	..	..	5
Radnor .....	..	..	..	..	..	..	..	..	6
Totals ..	10	56	3	1	124	38	217	895	1,562

\* Including Bristol.



## Committed for Trial or Bailed, and the Result of the Proceedings.

Imprisonment.					Whipping, Fine, and Dis- charge on Sureties.	Sentence Respite and Pardon.	In- sane.	Acquitted.			Total.
Above Three Years.	Above Two Years.	Above One Year.	Above Six Months.	Six Months and under.				Not Guilty.	No Bill Found	No Prose- cution.	
..	..	2	8	88	..	..	..	44	18	6	185
..	..	8	26	207	11	..	..	57	21	1	365
..	..	6	19	120	7	..	..	48	20	..	244
..	..	13	30	139	2	..	..	61	16	..	323
..	..	14	104	604	1	..	..	172	35	1	1,024
..	..	4	19	113	1	..	..	35	14	1	210
..	..	1	10	98	5	..	..	20	2	3	153
..	..	21	25	111	6	..	..	41	3	..	237
..	..	8	77	342	3	..	..	156	39	4	702
..	..	7	12	118	7	..	..	49	15	6	240
..	..	9	37	176	4	..	..	57	24	2	335
..	..	12	47	311	1	..	2	159	31	3	632
..	..	20	110	504	15	1	..	168	43	5	965
..	..	2	23	118	..	..	..	55	23	..	241
..	..	4	20	138	3	..	1	46	19	2	280
..	..	2	17	42	..	..	..	24	7	..	101
..	..	28	95	504	8	..	2	172	73	4	963
..	..	100	433	1,931	11	..	4	459	114	21	3,459
..	..	5	32	161	5	..	1	63	20	2	322
..	..	23	78	302	..	..	1	78	29	6	572
..	..	55	659	2,042	54	2	2	605	125	8	3,974
..	..	2	21	225	1	..	..	58	20	1	367
..	..	11	61	372	7	..	..	125	64	6	706
..	..	10	32	127	..	2	1	55	9	1	252
..	..	5	27	118	..	..	..	30	24	..	239
..	..	12	34	175	..	..	..	48	12	1	333
..	1	6	31	166	..	..	1	55	22	..	321
..	..	..	1	38	..	..	..	5	2	..	50
..	..	4	29	235	..	..	1	55	20	..	365
..	..	16	72	357	5	..	..	165	43	4	766
..	..	9	46	358	1	..	..	158	39	2	677
..	..	7	105	541	1	..	..	181	62	..	1,013
..	..	9	57	337	5	..	2	126	42	4	629
..	1	12	132	604	24	..	..	133	59	1	1,063
..	1	12	42	281	5	..	..	84	32	2	512
..	..	57	149	405	1	2	2	107	35	3	866
..	..	..	6	40	..	..	1	9	1	..	62
..	..	14	38	231	..	..	..	73	29	6	438
..	..	4	50	302	22	..	1	109	59	1	599
..	..	46	245	1,120	20	..	..	395	98	6	2,166
..	..	..	7	24	..	..	..	5	3	..	43
..	..	2	4	19	..	..	..	22	12	..	66
..	..	3	4	13	1	..	..	12	8	1	45
..	..	..	6	33	..	..	..	17	8	8	75
..	..	..	7	20	2	..	..	15	8	3	56
..	..	..	4	47	..	..	..	12	10	..	77
..	1	..	4	19	5	..	..	20	9	..	63
..	..	5	7	239	3	..	..	58	28	5	378
..	..	..	3	9	..	..	..	7	2	..	25
..	..	..	7	44	..	..	..	9	9	..	73
..	..	1	6	27	1	..	..	24	23	1	88
..	..	..	2	8	..	..	..	3	1	..	20
..	4	591	3,120	14,703	248	7	22	4,744	1,484	131	27,960

+ Including London.

TABLE II.—*Showing, for each County, the Sex of the Persons Committed*

COUNTIES.	No. 1. Offences against the Person.			No. 2. Offences against Property committed <i>with</i> Violence.			No. 3. Offences against Property committed <i>without</i> Violence.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Bedford .....	13	..	13	19	..	19	115	19	134
Berks .....	28	1	29	12	4	16	234	51	285
Bucks .....	11	4	15	28	..	28	156	19	175
Cambridge.....	23	3	26	26	..	26	212	35	247
Chester .....	84	4	88	75	4	79	616	201	817
Cornwall .....	21	1	22	12	..	12	131	38	169
Cumberland ....	17	2	19	9	1	10	62	39	101
Derby .....	36	1	37	23	1	24	132	22	154
Devon .....	45	6	51	34	3	37	431	150	581
Dorset .....	19	5	24	22	..	22	163	23	186
Durham .....	29	1	30	13	2	15	203	50	253
Essex .....	27	5	32	68	2	70	435	48	483
Gloucester* ....	69	5	74	69	3	72	622	141	763
Hereford .....	13	5	18	24	..	24	148	46	194
Hertford .....	13	2	15	22	1	23	185	20	205
Huntingdon ....	14	1	15	1	..	1	66	5	71
Kent .....	68	9	77	58	5	63	611	134	745
Lancaster .....	226	29	255	251	32	283	1,841	921	2,762
Leicester .....	24	2	26	27	1	28	205	42	247
Lincoln .....	35	11	46	48	1	49	372	76	448
Middlesex+ .....	277	56	333	162	6	168	2,282	856	3,138
Monmouth .....	21	3	24	32	2	34	189	89	278
Norfolk .....	55	7	62	42	3	45	471	80	551
Northampton ...	19	4	23	8	2	10	174	27	201
Northumberland.	17	2	19	44	5	49	116	45	161
Nottingham ....	19	4	23	27	1	28	230	34	264
Oxford .....	16	3	19	28	1	29	222	35	257
Rutland .....	9	..	9	..	..	..	34	5	39
Salop .....	31	2	33	24	..	24	232	61	296
Somerset .....	47	6	53	54	9	63	504	121	625
Southampton ...	37	6	43	29	1	30	451	92	543
Stafford .....	91	8	99	81	7	88	615	171	786
Suffolk .....	43	3	46	42	2	44	422	62	484
Surrey .....	66	15	81	49	9	58	665	178	843
Sussex .....	29	3	32	37	1	38	310	95	405
Warwick .....	49	5	54	82	7	89	566	122	688
Westmoreland ..	..	..	..	2	..	2	45	8	53
Wilts .....	21	..	21	37	..	37	293	59	352
Worcester .....	45	5	50	37	3	40	380	94	474
York .....	162	18	180	177	21	198	1,329	355	1,684
Anglesea .....	2	..	2	10	..	10	25	5	30
Brecon .....	5	2	7	7	1	8	40	3	43
Cardigan .....	2	1	3	3	1	4	27	10	37
Carmarthen ....	7	4	11	3	2	5	41	10	51
Carnarvon .....	6	..	6	..	..	..	37	10	47
Denbigh .....	6	2	8	4	..	4	40	18	58
Flint .....	7	2	9	3	..	3	31	5	36
Glamorgan .....	37	2	39	16	4	20	207	104	311
Merioneth .....	2	..	2	5	..	5	14	2	16
Montgomery .....	2	..	2	10	..	10	45	13	58
Pembroke .....	9	1	10	9	1	10	41	25	66
Radnor .....	2	1	3	6	..	6	9	2	11
Totals ....	1,956	262	2,218	1,911	149	2,060	17,027	4,879	21,906

\* Including Bristol.



*for Trial or Bailed, and the Offences with which they stood charged.*

No. 4. Malicious Offences against Property.			No. 5. Forgery and Offences against the Currency.			No. 6. Other Offences not included in the above Classes.			Total Offences.		
Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
12	..	12	1	1	2	5	..	5	165	20	185
13	..	13	7	2	9	13	..	13	307	58	365
6	..	6	9	2	11	9	..	9	219	25	244
16	1	17	4	1	5	2	..	2	283	40	323
11	..	11	13	2	15	13	1	14	812	212	1,024
6	..	6	1	..	1	..	..	..	171	39	210
..	..	..	1	1	2	16	5	21	105	48	153
3	..	3	6	3	9	10	..	10	210	27	237
6	2	8	14	3	17	8	..	8	538	164	702
4	..	4	1	..	1	1	2	3	210	30	240
2	..	2	19	3	22	10	3	13	276	59	335
21	..	21	14	2	16	9	1	10	574	58	632
7	..	7	13	2	15	29	5	34	809	156	965
..	..	..	1	..	1	4	..	4	190	51	241
11	..	11	8	1	9	17	..	17	256	24	280
10	..	10	2	..	2	2	..	2	95	6	101
8	..	8	31	2	33	28	9	37	804	159	963
8	..	8	71	27	98	43	10	53	2,440	1,019	3,459
3	..	3	3	1	4	11	3	14	273	49	322
11	1	12	9	2	11	6	..	6	481	91	572
6	2	8	178	44	222	76	29	105	2,981	993	3,974
2	..	2	15	5	20	6	3	9	265	102	367
10	2	12	6	1	7	27	2	29	611	95	706
9	..	9	2	1	3	5	1	6	217	35	252
1	..	1	5	1	6	2	1	3	185	54	239
1	..	1	6	2	8	9	..	9	292	41	333
9	..	9	2	1	3	2	2	4	279	42	321
2	..	2	..	..	..	..	..	..	45	5	50
1	..	1	6	3	9	2	..	2	296	69	365
1	..	1	8	2	10	13	1	14	627	139	766
10	1	11	14	3	17	28	5	33	569	108	677
4	..	4	20	2	22	13	1	14	824	189	1,013
21	3	24	8	1	9	20	2	22	556	73	629
5	1	6	41	11	52	13	10	23	839	224	1,063
6	..	6	10	1	11	19	1	20	411	101	512
5	1	6	17	2	19	7	3	10	726	140	866
3	..	3	..	2	2	2	..	2	52	10	62
12	1	13	9	..	9	5	1	6	377	61	438
3	..	3	11	2	13	19	..	19	495	104	599
14	..	14	54	10	64	17	9	26	1,753	413	2,166
..	..	..	1	..	1	..	..	..	38	5	43
..	..	..	1	1	2	6	..	6	59	7	66
..	..	..	..	1	1	..	..	..	32	13	45
..	..	..	2	1	3	5	..	5	58	17	75
1	..	1	..	..	..	2	..	2	46	10	56
4	..	4	1	..	1	2	..	2	57	20	77
..	..	..	..	..	..	13	2	15	54	9	63
..	..	..	7	..	7	1	..	1	268	110	378
1	..	1	..	..	..	1	..	1	23	2	25
1	..	1	2	..	2	..	..	..	60	13	73
..	..	..	2	..	2	..	..	..	61	27	88
..	..	..	..	..	..	..	..	..	17	3	20
290	15	305	656	152	808	551	112	663	22,391	5,569	27,960

+ Including London.

TABLE III.—Showing the Total Number of Persons Committed for Trial or Bailed, the Offences with which they stood Charged, and the Result of the Proceedings.

OFFENCES.	Capitally Convicted.				Convicted.										Acquitted.							
	Exe- cution.	Commutation.			Free Pardon.	Transportation.				Imprisonment.						Whipping, Fine, and Discharge on Sureties.	Sentence Respited and Pardon.	In- sane.	Not Guilty found.	No Bill found.	No Prose- cution.	Total.
		Transpor- tation.	Impri- sonment.	...		Above Life.	Above Ten Years.	Above Seven Years.	Seven Years.	Above Three Years.	Above Two Years.	Above One Year.	Above Six Mnths and under.									
No. 1.—Offences against the Person .....	10	30	...	...	48	6	20	44	26	...	4	123	281	756	99	...	10	604	8	2,218		
No. 2.—Offences against Pro- perty commit- ted with Vio- lence .....	...	25	2	1	44	19	87	285	279	...	...	...	361	354	1	...	1	393	15	2,060		
No. 3.—Offences against Pro- perty commit- ted without Violence .....	...	...	...	...	13	9	73	505	1,182	...	...	288	2,136	13,095	40	5	9	3,350	69	21,906		
No. 4.—Malicious Offences against Property .....	...	1	1	...	16	1	30	35	12	...	...	5	15	34	...	...	...	108	46	1	305	
No. 5.—Forgery and Offences against the Currency .....	...	...	...	...	2	3	4	23	35	...	...	52	273	321	1	...	1	70	15	8	808	
No. 6.—Other Offences not included in the above Classes	...	...	...	...	1	...	3	3	28	...	...	12	54	143	107	2	1	219	60	30	663	
Totals .....	10	56	3	1	124	38	217	895	1,562	...	4	591	3,120	14,703	248	7	22	4,744	1,484	131	27,960	



TABLE IV.—Showing the Total Number of Persons Committed for Trial or Bailed in each of the last Ten Years, and the Offences with which the Persons stood Charged; also the Total of each of the Two Quinquennial Periods, the Average of each of the Two Quinquennial Periods, the Total of the last Ten Years, and the Average of the last Ten Years.

OFFENCES.	1842.	1843.	1844.	1845.	1846.	1847.	1848.	1849.
No. 1.—Offences against the Person.....	2,127	2,431	2,306	1,966	2,249	2,023	2,234	1,846
No. 2.—Offences against Property committed with Violence.....	2,178	2,530	1,759	1,471	1,507	1,732	2,172	2,076
No. 3.—Offences against Property committed without Violence.....	23,995	22,298	20,425	19,506	20,035	22,571	23,910	22,053
No. 4.—Malicious Offences against Property.....	201	279	347	149	209	186	191	293
No. 5.—Forgery and Offences against the Cur- rency.....	634	668	548	438	406	525	684	676
No. 6.—Other Offences, not included in the above Classes.....	2,174	1,385	1,157	773	701	796	1,158	872
Totals.....	31,309	29,591	26,542	24,303	25,107	28,833	30,349	27,816
OFFENCES.	1850.	1851.	Total of Five Years, ending 1846.	Total of Five Years, ending 1851.	Average of Five Years, ending 1846.	Average of Five Years, ending 1851.	Total of Ten Years, ending 1851.	Average of Ten Years ending 1851.
No. 1.—Offences against the Person.....	1,886	2,218	11,079	10,207	2,216	2,041	21,286	2,129
No. 2.—Offences against Property committed with Violence.....	2,014	2,060	9,445	10,054	1,889	2,011	19,499	1,950
No. 3.—Offences against Property committed without Violence.....	21,253	21,906	106,259	112,693	21,252	22,539	218,952	21,895
No. 4.—Malicious Offences against Property.....	236	305	1,185	1,211	237	242	2,396	240
No. 5.—Forgery and Offences against the Cur- rency.....	680	808	2,694	3,373	539	675	6,067	607
No. 6.—Other Offences, not included in the above Classes.....	744	663	6,190	4,233	1,238	847	10,423	1,042
Totals.....	26,813	27,960	136,852	141,771	27,370	28,355	278,623	27,863

TABLE V.—*Showing, for each County, the Number of Persons Committed for Trial Periods, and the average of each of the Two Quinquennial Periods ;*

COUNTIES.	1842.	1843.	1844.	1845.	1846.	1847.	1848.
Bedford .....	229	202	188	155	185	178	204
Berks .....	333	328	287	260	250	335	360
Bucks .....	277	313	280	286	283	315	310
Cambridge .....	241	257	297	239	276	255	244
Chester .....	1,086	1,018	777	688	767	871	1,070
Cornwall.....	282	301	269	279	280	341	272
Cumberland .....	115	109	139	118	147	120	130
Derby .....	322	322	278	186	277	214	264
Devon .....	716	740	715	720	721	949	924
Dorset .....	241	252	203	218	225	307	287
Durham .....	266	300	376	203	249	279	334
Essex .....	758	710	596	554	602	603	689
Gloucester*.....	1,252	1,186	1,071	929	884	1,092	1,042
Hereford .....	259	238	230	226	158	212	270
Hertford .....	338	265	271	244	243	291	348
Huntingdon .....	68	68	79	88	81	89	104
Kent .....	1,155	977	911	831	815	889	1,020
Lancaster .....	4,497	3,677	2,893	2,852	3,072	3,456	3,778
Leicester .....	492	509	481	328	358	335	346
Lincoln .....	507	563	542	389	419	506	504
Middlesex†.....	4,094	4,260	4,027	4,440	4,641	5,175	4,856
Monmouth .....	264	261	278	196	217	282	298
Norfolk .....	808	782	788	642	720	751	689
Northampton .....	346	270	294	302	270	243	307
Northumberland....	245	290	294	189	169	189	201
Nottingham.....	374	353	348	267	286	343	364
Oxford .....	334	328	296	309	228	299	296
Rutland .....	48	39	23	28	26	41	52
Salop .....	470	534	449	308	227	267	305
Somerset .....	1,148	967	1,039	873	701	774	888
Southampton .....	702	676	517	619	608	737	728
Stafford .....	1,185	1,175	885	717	851	1,028	1,120
Suffolk.....	527	585	630	407	471	505	495
Surrey .....	1,017	867	941	952	958	1,315	1,296
Sussex .....	550	493	409	409	468	522	546
Warwick.....	1,003	1,045	894	769	799	998	1,257
Westmoreland .....	39	44	24	46	74	33	47
Wilts .....	548	464	432	379	436	502	465
Worcester .....	609	679	603	563	535	620	681
York .....	2,598	2,304	1,691	1,417	1,560	1,794	2,036
Anglesea .....	21	20	7	23	10	42	22
Brecon .....	56	62	58	37	24	51	42
Cardigan .....	14	26	31	47	25	26	25
Carmarthen.....	49	171	117	87	43	50	65
Carnarvon .....	33	21	32	39	47	60	60
Denbigh .....	79	89	89	66	46	92	115
Flint .....	61	49	50	62	55	46	40
Glamorgan .....	197	174	225	159	142	267	382
Merioneth .....	12	21	9	12	14	14	18
Montgomery .....	73	94	96	67	48	53	77
Pembroke .....	48	88	54	66	87	67	46
Radnor .....	23	25	29	30	29	10	33
Totals .....	31,309	29,591	26,542	24,303	25,107	28,833	30,349

\* Including Bristol.



*or Bailed in each of the last Ten Years, the Total of each of the Two Quinquennial also the Total of the last Ten Years, and the average of the last Ten Years.*

1849.	1850.	1851.	Total of Five Years, ending 1846.	Total of Five Years, ending 1851.	Average of Five Years, ending 1846.	Average of Five Years, ending 1851.	Total of Ten Years, ending 1851.	Average of Ten Years, ending 1851.
162	161	185	859	890	172	178	1,849	185
358	318	365	1,458	1,736	292	347	3,194	319
287	242	244	1,439	1,398	288	280	2,837	284
309	302	323	1,310	1,433	262	287	2,743	274
861	900	1,024	4,336	4,726	867	945	9,062	906
277	226	210	1,404	1,326	281	265	2,730	273
159	146	153	627	708	125	142	1,335	133
245	255	237	1,386	1,215	277	243	2,601	260
893	807	702	3,612	4,275	722	855	7,887	789
326	190	240	1,139	1,350	228	270	2,489	249
321	358	335	1,394	1,627	279	325	3,021	302
587	631	632	3,220	3,142	644	628	6,362	636
1,063	920	965	5,322	5,082	1,064	1,016	10,404	1,040
242	252	241	1,111	1,217	222	243	2,328	239
318	315	280	1,361	1,552	272	310	2,913	291
93	90	101	384	477	77	95	861	86
980	958	963	4,689	4,810	938	962	9,499	950
3,290	3,340	3,459	16,991	17,323	3,398	3,465	34,314	3,431
299	300	322	2,168	1,602	434	320	3,770	377
529	528	572	2,420	2,639	484	528	5,059	506
2,861	3,732	3,974	21,462	21,598	4,292	4,320	43,060	4,306
370	433	367	1,216	1,750	243	350	2,966	297
633	705	706	3,740	3,484	748	697	7,224	722
327	248	252	1,482	1,377	296	275	2,859	286
261	283	239	1,187	1,173	237	235	2,360	236
341	325	333	1,628	1,706	326	341	3,334	333
303	252	321	1,495	1,471	299	294	2,966	297
35	27	50	164	205	33	41	369	37
347	307	365	1,988	1,591	398	318	3,579	358
885	754	766	4,728	4,067	946	813	8,795	879
751	686	677	3,122	3,579	624	716	6,701	670
1,009	1,053	1,013	5,113	5,223	1,023	1,045	10,336	1,034
537	472	629	2,620	2,638	524	528	5,258	526
1,109	1,030	1,063	4,725	5,813	945	1,163	10,538	1,054
502	480	512	2,329	2,562	466	512	4,891	489
910	880	866	4,510	4,911	902	982	9,421	942
57	70	62	227	269	45	54	496	50
452	386	438	2,259	2,243	452	445	4,502	450
653	607	599	2,989	3,160	598	632	6,149	615
2,022	1,915	2,166	9,570	9,933	1,914	1,987	19,503	1,950
33	41	43	81	181	16	36	262	26
53	59	46	237	271	47	54	508	51
30	36	45	143	162	29	34	305	30
53	48	75	467	291	93	58	758	76
66	43	56	172	285	34	57	457	46
95	91	77	369	470	74	94	839	84
59	42	63	277	250	55	50	527	53
302	395	378	897	1,724	179	345	2,621	262
18	23	25	68	98	14	20	166	17
67	76	73	378	346	76	69	724	72
55	62	88	343	318	69	64	661	66
21	13	20	136	94	27	19	230	23
27,816	26,813	27,960	136,852	141,771	27,370	28,354	278,623	27,862

+ Including London.

TABLE VI.—*Showing for each County the Population, and the Number of Persons Committed for Trial or Bailed, in 1841 and 1851, also the Ratio per Cent. of Persons so Committed in each of those Decennial Periods.*

COUNTIES.	Population.		Number of Criminals.		Ratio per Cent. of Criminals to Population.	
	1841.	1851.	1841.	1851.	1841.	1851.
Bedford .....	112,378	129,789	191	185	·170	·142
Berks .....	190,372	199,154	306	365	·161	·183
Bucks .....	138,248	143,670	287	244	·208	·170
Cambridge .....	169,638	191,856	240	323	·141	·168
Chester .....	368,400	423,438	943	1,025	·256	·242
Cornwall .....	343,321	356,662	295	210	·086	·059
Cumberland ....	178,038	195,487	151	153	·085	·078
Derby .....	239,791	260,707	277	237	·115	·091
Devon .....	537,270	572,207	687	702	·128	·123
Dorset .....	167,876	177,597	284	240	·169	·135
Durham .....	326,043	411,532	215	335	·066	·081
Essex .....	320,811	343,916	647	632	·202	·183
Gloucester*.....	395,533	419,475	1,236	965	·312	·230
Hereford .....	96,515	99,112	245	241	·254	·243
Hertford .....	162,394	173,963	319	280	·196	·160
Huntingdon ....	55,565	60,320	62	101	·111	·167
Kent .....	551,291	619,207	962	963	·174	·155
Lancaster .....	1,698,609	2,063,913	3,987	3,459	·234	·167
Leicester .....	220,304	234,938	466	322	·211	·137
Lincoln .....	356,226	400,266	349	572	·098	·143
Middlesex† .....	1,585,918	1,895,710	3,586	3,974	·226	·210
Monmouth .....	151,021	177,165	364	367	·241	·207
Norfolk .....	405,124	433,803	666	706	·164	·163
Northampton ....	199,208	213,784	342	252	·172	·118
Northumberland ..	266,020	303,535	226	239	·085	·079
Nottingham.....	270,731	294,438	329	333	·121	·113
Oxford.....	163,216	170,286	323	321	·198	·188
Rutland .....	23,151	24,272	14	50	·060	·206
Salop .....	241,685	245,019	416	365	·172	·149
Somerset .....	448,793	456,237	991	766	·221	·168
Southampton ....	352,048	402,033	677	677	·192	·168
Stafford .....	528,867	630,506	1,059	1,013	·200	·161
Suffolk.....	314,681	335,991	482	629	·153	·187
Surrey .....	587,038	684,805	923	1,063	·157	·155
Sussex.....	302,460	339,428	539	512	·178	·151
Warwick.....	409,138	479,979	1,046	866	·256	·180
Westmoreland ...	56,609	58,380	33	62	·058	·106
Wilts .....	242,772	241,003	506	438	·208	·188
Worcester .....	230,387	258,762	566	599	·246	·231
York .....	1,584,116	1,788,767	1,895	2,166	·119	·121
Anglesea .....	38,106	43,248	13	43	·034	·099
Brecon.....	55,420	59,162	48	46	·087	·078
Cardigan .....	96,002	97,667	17	45	·018	·046
Carmarthen.....	89,559	94,663	32	75	·036	·079
Carnarvon .....	86,753	94,668	33	56	·038	·059
Denbigh .....	92,036	96,820	81	77	·088	·079
Flint .....	40,798	41,053	44	63	·108	·153
Glamorgan .....	178,050	240,132	189	378	·106	·157
Merioneth .....	50,713	51,242	5	25	·010	·049
Montgomery ....	79,756	77,129	75	73	·094	·095
Pembroke .....	78,557	84,456	58	88	·074	·104
Radnor .....	31,776	31,416	33	20	·104	·064
Totals.....	15,914,148	17,922,768	27,760	27,960	·174	·156

\* Including Bristol.

† Including London.



The foregoing table shows an increase of 200 in the number of criminals in 1851 as compared with 1841; but, allowing for the increase of population, an actual *decrease* has taken place of 3,303, or 12 per cent. This decrease is chiefly exhibited in the counties of Gloucester, Warwick, Leicester, Lancaster, Lincoln, Northampton, and Somerset. The following counties show a considerable increase of crime, viz., Rutland, Anglesea, Huntingdon, and Glamorgan.

The subjoined statement gives the order of a few of the counties in which crime was least prevalent in 1841 and 1851, also the order of those in which it was most rife in those years.

1841.				1851.			
Counties in which Crime was <i>Least</i> Prevalent.	Ratio of Crime to Population.	Counties in which Crime was <i>Most</i> Prevalent.	Ratio of Crime to Population.	Counties in which Crime was <i>Least</i> Prevalent.	Ratio of Crime to Population.	Counties in which Crime was <i>Most</i> Prevalent.	Ratio of Crime to Population.
1. Merioneth .	·010	48. Worcester	·246	1. Cardigan ..	·046	48. Middlesex†	·210
2. Cardigan ..	·018	49. Hereford ..	·254	2. Merioneth .	·049	49. Gloucester*	·230
3. Anglesea ..	·034	50. Warwick }	·256	3. Carnarvon }	·059	50. Worcester .	·231
4. Carmarthen	·036	51. Chester }		4. Cornwall }		51. Chester ...	·242
5. Carnarvon	·038	52. Gloucester*	·312	5. Radnor ...	·064	52. Hereford ..	·243

\* Including Bristol.

† Including London.

The following statement shows the number of persons committed for trial or bailed in 1841 and 1851 respectively, the ratio of such persons to the population, and the offences with which they stood charged.

OFFENCES.	Number of Criminals.		Ratio per Cent. of Criminals to Population.	
	1841.	1851.	1841.	1851.
No. 1.—Offences against the Person	2,140	2,218	·0134	·0124
No. 2.—Offences against Property } committed <i>with</i> Violence .....	1,873	2,060	·0118	·0115
No. 3.—Offences against Property } committed <i>without</i> Violence .....	22,017	21,906	·1326	·1222
No. 4.—Malicious Offences against } Property .....	94	305	·0006	·0017
No. 5.—Forgery and Offences against } the Currency .....	437	808	·0027	·0045
No. 6.—Other Offences, not in- } cluded in the above Classes .....	1,199	663	·0075	·0037
Totals.....	27,760	27,960	·1744	·1560

It will be seen by the foregoing statement that malicious offences against property and forgery (including offences against the currency) have greatly increased since 1841, but all other classes of offences have considerably decreased.

The proportion of female offenders has shown a slight tendency to increase in the three last years. It has been, for the last ten years, as follows:—

Years.	Ratio to 100 Males.	Years.	Ratio to 100 Males.
1842.....	21·6	1847.....	25·9
1843.....	22·0	1848.....	23·4
1844.....	23·1	1849.....	24·1
1845.....	25·6	1850.....	24·4
1846.....	26·5	1851.....	24·8

In offences against the person, the proportion of females in 1851 was 13·4 to 100 males. In murder, the large and increasing ratio of females, arising from the many cases of poisoning, is shown in the subjoined statement:—

Years.	Males.	Females.	Years.	Males.	Females.
1842.....	39	28	1847.....	38	34
1843.....	52	33	1848.....	42	34
1844.....	46	29	1849.....	42	42
1845.....	41	24	1850.....	28	24
1846.....	42	26	1851.....	33	41

In the violent offences against property the proportion of females is 7·7 to 100 males. In the class including the simple offences of stealing the proportion rises to 28·6 females to 100 males. In the malicious offences against property the proportion is at its minimum, 5·1 females to 100 males. In forgery and offences against the currency, from the number of females committed for uttering counterfeit coin, the proportion is 23·1 females to 100 males.

It is much to be regretted that the element of *age* has ceased to be introduced in the criminal tables, experience having proved that it exercises a considerable influence on crime, as will be seen by a reference to Mr. Neison's elaborate papers on the subject, in volumes ix. and xi. of the *Statistical Journal*.

E. C.



THE MARRIAGES, BIRTHS, AND DEATHS,  
REGISTERED IN THE DIVISIONS, COUNTIES, AND DISTRICTS OF ENGLAND.

*The Marriages for the Quarter ending September, 1852, and the Births and Deaths for the Quarter ending December, 1852,*

AS PUBLISHED BY AUTHORITY OF THE REGISTRAR-GENERAL.

This return comprises the births and deaths registered by 2,190 registrars in all the districts of England during the Autumn quarter ending December 31st, 1852; and the marriages in more than 12,000 churches or chapels, about 3,342 registered places of worship unconnected with the Established Church, and 624 superintendent registrars' offices, in the quarter that ended September 30th, 1852.

The return of marriages is not complete; but the defects are inconsiderable, and approximate numbers have been supplied from the records of previous years.

The marriages and the births, in nearly the same proportion, greatly exceed the average number of the season; and the average number of the corresponding quarters of previous years is slightly exceeded by the deaths.

The registration of the year 1852 is completed, for the births and deaths, by the present return. The births were 616,251 in 1851, and 624,171 in 1852. The deaths 395,933 in 1851, and 407,938 in 1852. The average annual rate of birth is 3·282 per cent., or nearly 1 in 30. In 1852 it rose to 3·472 per cent., or 1 in 29. The average annual rate of deaths is 2·242 per cent. (rather less than 1 in 45); in 1852 it was 2·269, or slightly above the average (1 in 44 nearly).

MARRIAGES.—76,582 persons were married in the quarter ending September 1852, giving a considerable excess on the numbers (74,310) married in the corresponding quarter of the previous year. The number of marriages was 38,291, while in the summer quarter of 1840–3 the number of marriages never exceeded 29,397, and in 1842 fell so low as 27,288; in the summer of 1844 there was a sudden increase, and in the summer of 1845 the marriages were 35,003; in 1847–8 the numbers fell back to 32,439, and rose slowly until the summer of 1849; in each of the three succeeding summers (1850–2) the marriages have not been less than 37,155 in number. Nothing probably indicates more accurately than these figures the condition of the people, or the view which they took of their prospects in life during the last eleven summers.

The rate of marriage is still high in London, and the marriages were 7,109 in the last, 7,345 in the previous, September quarter, whereas they amounted only to 5,747 in the corresponding quarter of 1848. The marriages increased in all the south-eastern counties. In the South Midland Division the marriages were nearly stationary. In Essex, Suffolk, and Norfolk the marriages also increased. In the South-Western Division the increase of marriages was greatest in Devonshire and Somersetshire; was particularly conspicuous in Saint Thomas, Newton Abbot, Plymouth, Taunton, Yeovil, and Bath. The marriages increased in each of the west and north midland counties, particularly in Stroud, Cirencester, Ludlow, and Clun (where a railway has recently been carried), Shrewsbury, Dudley, Worcester, King's Norton, Birmingham, Coventry, Warwick, Caistor, Leicester, Nottingham, where manufactures are actively carried on. In Cheshire and Lancashire marriages are much more numerous than they were in 1848, but less numerous than they were in 1850; in Manchester and Liverpool the marriages are declining. Yorkshire is nearly in the same condition as Lancashire; the marriages in the West Riding have not increased to any extent since 1850. In the Northern Division the marriages decreased; in Wales they increased.

BIRTHS.—152,066 births were registered in the last quarter of the year, whereas the numbers in the quarter ending December, 1851, were 149,155. The births registered in London, in the West Midland counties, and in Yorkshire, increased; in the other divisions the numbers scarcely exceeded those in the previous year.

INCREASE OF POPULATION.—As the births in the quarter were 152,066, the deaths 99,946, the natural increase was 52,120. The number of emigrants who sailed in the quarter from London was 12,322, Plymouth 1,676, Liverpool 41,317; from the three English ports 55,315. The total numbers who sailed from the ports of the United Kingdom at which there are Government emigration agents amounted to

57,913. Many who sailed from other ports are not in the return, and it is well known that a large proportion of the emigrants who sail from Liverpool are by birth Irish. At present it is probable, taking all circumstances into account, that the emigration from England is not equal to its natural increase.

The number of emigrants who sailed during the year 1852 from the ports of the United Kingdom, at which there are emigration agents, amounted to 350,647, or certainly not less, taking the year through, and other ports into account, than 1,000 a-day\*,

*Marriages, Births, and Deaths, returned in the Years 1840-52 and in the Quarters of those Years.*

YEARS.....	1840	1841	1842	1843	1844	1845	1846	1847	1848	1849	1850*	1851	1852
Marriages .....	122665	122496	118825	123818	132249	143743	145664	135845	138230	141883	152738	153740	...
Births .....	502303	512158	517739	527325	540763	543521	572625	539965	563059	578159	593422	616251	624171
Deaths .....	359687	343847	349519	346445	356933	349366	390315	423304	399833	440839	368986	395933	407938
MARRIAGES.													
Quarters ended the last day of													
March .....	26395	24447	25860	25285	26387	29551	31417	27480	28398	28429	30567	32619	32933
June .....	30786	32551	30048	31113	34268	35300	37111	35197	34721	35844	39204	38498	40007
September .....	29221	29397	27288	28847	31675	35003	35070	32439	32995	33874	37636	37155	38291
December .....	36263	36101	35629	38573	39919	43889	42066	40729	42116	43736	45331	45468	...
BIRTHS.													
March .....	132305	133720	135615	136837	143578	143080	145108	146453	139736	153772	144551	157374	161776
June .....	129059	129884	134096	131279	136941	136853	149450	139072	149760	153693	155865	159138	159136
September .....	119822	123868	123296	128161	130078	132369	138718	127173	140359	135223	146911	150584	151193
December .....	121117	124686	124732	131048	130166	131219	139349	127267	133204	135471	146095	149155	152066
DEATHS.													
March .....	98896	99069	96314	94926	101024	104664	89484	119672	120032	105870	98418	105446	106682
June .....	90339	86134	86538	87234	85337	89149	90231	106718	99727	102153	92875	99639	100813
September .....	80822	75440	82339	76792	79708	74872	101663	93435	87638	135227	85846	91600	100497
December .....	89630	83204	84328	87493	90864	80681	108937	103479	92436	97589	91847	99248	99946

\* The numbers up to 1850 have appeared in the Annual Reports.

**PRICE OF FOOD.**—The price of provisions has increased since last year; in the last three months of 1852 wheat was 40s. 5d. a quarter; beef, by the carcase, at Leadenhall and Newgate markets, 4d. a pound; mutton, 5½ a pound; potatoes (York regents), 105s. a ton at the waterside market, Southwark. In the corresponding three months of 1851, the prices were: wheat, 36s. 7d. a quarter; beef, 4 per pound; mutton, 4¾d. per pound; potatoes, 70s. Potatoes are, therefore, through the disease with which they have been infested, dearer by 50 per cent., wholesale, in London, than they were at the same time last year.

It should be recollected that the potatoe cannot be replaced in the dietary of the people by bread or meat. Fruit and vegetables are indispensable constituents of man's food; and without a due supply of them to the population scurvy and malignant diseases of various kinds break out. Turnips, carrots, artichokes, green vegetables, oranges and lemons should be procured, where there are means, in towns; in the country the old practice of drinking herb-teas with cream of tartar would be salutary.

**STATE OF THE PUBLIC HEALTH.**—99,946 deaths were registered during the last quarter of the year 1852. In the corresponding quarter of 1851 the deaths were 99,248. The annual rate of mortality in the last quarter is at the rate of 2.197 per cent., which is higher than the average rate, or than the mortality in the corresponding quarters of 1842-45, in 1848, in 1850-51, but much lower than 2.545 and 2.389, the rates of mortality in 1846-47.

\* Return with which the Registrar General has been favoured by the Emigration Commissioners.



*The Average Prices of Consols, of Wheat, Meat, and Potatoes, also the Average Quantity of Wheat sold and imported Weekly, in each of the six Quarters ending December 31st, 1852.*

Quarters ending	Average Price of Consols.	Average Price of Wheat per Quarter in England and Wales.	Wheat sold in the 390 Cities and Towns in England and Wales making Returns.	Wheat and Wheat Flour entered for Home Consumption at Chief Ports of Great Britain.	Average Prices of Meat per lb. at Leadenhall and Newgate Markets (by the Carcase).		Potatoes (York Regents) per Ton at Waterside Market, Southwark.
			Average Number of Quarters weekly.		Beef.	Mutton.	
1851 Sept. 30.	96½	40s. 7d.	74,714	91,040	3d.—5d. Mean 4d.	3¾d.—5¾d. Mean 4¾d.	90s.—110s. Mean 100s.
Dec. 31.	97½	36s. 7d.	109,506	47,986	3d.—5d. Mean 4d.	3¾d.—5¾d. Mean 4¾d.	65s.—75s. Mean 70s.
1852 Mar. 31.	97¼	40s. 10d.	95,532	27,540	3¼d.—5d. Mean 4½d.	3¾d.—5¾d. Mean 4¾d.	60s.—80s. Mean 70s.
June 30.	99⅞	40s. 10d.	87,949	54,675	3¼d.—4¾d. Mean 4d.	3¾d.—5¼d. Mean 4½d.	85s.—110s. Mean 97s. 6d.
Sept. 30.	100	41s. 2d.	78,712	67,912	3¼d.—5d. Mean 4½d.	4d.—6d. Mean 5d.	80s.—100s. Mean 90s.
Dec. 31.	100⅝	40s. 5d.	111,224	72,870	3d.—5d. Mean 4d.	4¼d.—6¼d. Mean 5¼d.	90s.—120s. Mean 105.

*Note.*—The total number of quarters of wheat sold in England and Wales for the 13 weeks ended September 30th, 1851, was 971,276; for the 13 weeks ending December 31st, 1,423,582; for the 13 weeks ended March 31st, 1852, 1,241,921; for the 13 weeks ending June 30th, 1,143,339; for the 13 weeks ending September 30th, 1,023,251; for the 13 weeks ending December 31st, 1,445,906. The total number of quarters entered for Home Consumption was, respectively, 1,183,523; 671,803; 358,024; 710,780; 882,850; and 947,310; the second total, however, embraces the returns of 14 weeks.

On dividing the country into two large divisions, the first of 117 districts, comprising the chief towns, and a population of 7,795,882, the second of 506 districts, having a population of 10,126,886, it is found that the mortality in the town district was, during the quarter, at the rate of 2·514 per cent. per annum, which is below the average (2·579), while the mortality in the country districts was at the rate of 1·982 per cent. per annum, or somewhat above the average of the corresponding quarter (1·941).

The unfavourable condition still prevailing in the towns is, however, too evident; to every 4 deaths out of a given number living in the country, 5 deaths occurred out of an equal number living in the towns during the last quarter; and on an average, out of equal numbers living, 4 die in the towns during autumn to every 3 who die in the country.

In LONDON the mortality was below the average. 13,681 deaths were registered in the December quarter, and the causes are stated in 13,302 instances in the weekly tables, of which a tabular summary is subjoined. 2,851 of the deaths were referred to zymotic diseases, 74 to small pox, 121 to measles, 952 to scarlatina (which has been usually fatal), 343 to diarrhoea, 14 to cholera, 41 to influenza, 634 to typhus (136 less than in the year preceding). Erysipelas, fatal in 67 instances, was also less prevalent than usual. The deaths from diseases of variable and uncertain seat, as well as from tubercular diseases, fluctuate little; thus the deaths from cancer in London during the five last autumns were 240, 242, 219, 223, and 228; the deaths from consumption 1,450, 1,473, 1,455, 1,737, and 1,662. The causes of the considerable increase in the deaths from consumption during the last two autumns

months is unknown. 1,492 persons died from diseases of the brain (which vary considerably from year to year), 288 persons died of apoplexy, 238 of paralysis, 118 (40 above the usual number) from epilepsy. 517 deaths were referred to diseases of the heart and blood-vessels, 2,359 to diseases of the lungs and other organs of respiration. Bronchitis was the cause of 1,006 deaths; pneumonia of 1,036 deaths. Hernia, ileus, intussusception, and stricture of the intestinal canal were fatal in 109 instances, a number one-fourth above the average. 115 mothers died in childbirth, 46 by metria (or puerperal fever), and 69 by other diseases incidental to that state. The births in London during the quarter were about 20,482, consequently one mother died to every 178 children born alive. The deaths from carbuncle and phlegmon (23), though not considerable, are more numerous than in the autumn quarter of 1851, and twice as numerous as in the previous autumns (1848-50). 20 deaths were referred directly to intemperance; 27 to delirium tremens; 54 to the want of breast-milk; 2 to privation; 1 to cold; 26 to poison; 66 to burns and scalds. 93 deaths were referred to hanging, strangling, and suffocation; and the numbers from these causes have rapidly increased of late from 22 in the autumn of 1848 to 41, 54, 55, and 93 in the autumns succeeding. 108 deaths by drowning have also been registered in the quarter, or 50 more than the average of the corresponding quarters.

The mortality in Surrey, Sussex and Hampshire was below the average; in Kent about, in Berkshire above, the average. The mortality was below the average in several districts of the south midland counties, and in all the south-western counties except Wiltshire. In the Sixth Division the deaths in Herefordshire and Staffordshire are above, while the deaths in the other counties are below, the average. In the North Midland Division the mortality in the counties of Leicester, Nottingham, and Derby is above, in Lincoln below, the average. In Cheshire and Lancashire the mortality is above the average. Yorkshire experienced the average rate of mortality. The northern counties have been less healthy than usual. In Wales 6,005 persons died. Cardiganshire and the other high districts of Wales have been as healthy as usual.

*Deaths in the Autumn Quarters.*

	1842	1843	1844	1845	1846	1847	1848	1849	1850	1851	Total. 1842-51	1852
In 117 Districts, comprising the chief towns .....	39662	42608	44080	39293	53055	57925	46124	47685	45245	49282	464959	49507
In 507 Districts, comprising chiefly small towns and country parishes	44666	44885	46784	41388	55882	45554	46312	49909	46778	49966	472124	50439
Total.....	84328	87493	90864	80681	108937	103479	92436	97594	92023	99248	937083	99946

*Population, Deaths, and Mortality per cent. in the Autumn Quarters, 1842-52.*

	Population Enumerated.		Deaths in 10 Autumn Quarters, 1842-51.	Annual Rate of Mortality of 10 Autumn Quarters, 1842-51.	Annual Rate of Mortality in the Autumn Quarter 1852.
	June 6-7th, 1841.	March 31st, 1851.			
In 117 Districts, comprising the chief towns .....	6,612,958	7,795,882	464,959	2.579	2.514
In 506 Districts, comprising chiefly small towns and country parishes .....	9,301,190	10,126,886	472,124	1.941	1.982
All England .....	15,914,148	17,922,768	937,083	2.174	2.197



## MORTALITY OF THE METROPOLIS.

*A Table of the Deaths in London from all Causes, Registered in the September Quarters of the Four Years, 1849-52.*

CAUSES OF DEATH.	Quarters ended Dec.				CAUSES OF DEATH.	Quarters ended Dec.			
	1849.	1850.	1851.	1852.		1849.	1850.	1851.	1852.
ALL CAUSES.....	12,877	12,544	13,964	13,448	III. Scrofula.....	83	76	84	86
SPECIFIED CAUSES .....	12,818	12,443	13,850	13,302	Tabes Mesenterica..	165	183	196	167
I. Zymotic Diseases....	3,227	2,706	3,137	2,851	Phthisis or Con- sumption.....	1,473	1,455	1,737	1,662
SPORADIC DISEASES.					IV. Hydrocephalus ....	314	298	373	304
II. Dropsy, Cancer, and other Diseases of uncertain or va- riable Seat .....	593	564	574	598	Cephalitis.....	120	122	113	111
III. Tubercular Diseases..	2,035	2,012	2,390	2,219	Apoplexy .....	324	332	330	288
IV. Diseases of the Brain, Spinal Marrow, Nerves, and Senses	1,454	1,476	1,495	1,492	Paralysis .....	257	280	277	238
V. Diseases of the Heart and Blood-Vessels	466	525	582	517	Delirium Tremens..	29	38	33	27
VI. Diseases of the Lungs and of the other Organs of Respiration .....	2,133	2,262	2,510	2,359	Chorea .....	1	1	..	1
VII. Diseases of the Sto- mach, Liver, and other Organs of Digestion .....	703	734	781	807	Epilepsy.....	73	79	75	118
VIII. Diseases of the Kid- neys, &c.....	142	153	160	168	Tetanus .....	5	4	4	4
IX. Childbirth, Diseases of the Uterus, &c. }	124	107	114	121	Insanity .....	26	24	27	23
X. Rheumatism, Dis- eases of the Bones, Joints, &c.....	98	108	99	112	Convulsions.....	473	441	497	508
XI. Diseases of the Skin, } Cellular Tissue, &c }	25	20	24	34	Disease of Brain, &c.	146	155	139	174
XII. Malformations.....	39	47	50	58	V. Pericarditis .....	34	39	32	26
XIII. Premature Birth & } Debility .....	293	340	399	385	Aneurism .....	20	21	25	17
XIV. Atrophy .....	389	269	297	323	Disease of Heart....	412	465	525	474
XV. Age .....	554	536	606	556	VI. Laryngitis.....	46	32	45	40
XVI. Sudden* .....	191	147	108	126	Bronchitis .....	805	922	1,050	1,006
XVII. Violence, Privation, Cold, and Intem- perance .....	402	437	524	576	Pleurisy .....	24	31	50	35
					Pneumonia .....	989	946	1,053	1,036
					Asthma .....	174	216	216	151
					Disease of Lungs, &c	95	115	96	91
					VII. Teething.....	118	120	99	107
					Quinsey.....	24	24	31	10
					Gastritis.....	18	16	21	19
					Enteritis .....	82	91	89	96
					Peritonitis.....	47	48	68	51
					Ascites .....	33	25	32	33
					Ulceration (of In- testines, &c.) .. }	33	22	33	38
					Hernia .....	26	29	29	41
					Ileus .....	22	34	37	48
					Intussusception ...	14	10	8	11
					Stricture of the In- testinal Canal. }	8	11	13	9
					Dis. of Stomach, &c.	78	65	79	77
					Disease of Pancreas	..	..	..	..
					Hepatitis .....	29	44	40	61
					Jaundice .....	33	36	40	45
					Disease of Liver ...	133	155	157	157
					Disease of Spleen ..	5	4	5	4
					VIII. Nephritis.....	6	10	5	12
					Nephria (or Bright's Disease) .....	31	35	39	30
					Ischuria .....	2	3	5	4
					Diabetes.....	10	17	12	16
					Stone .....	7	6	7	12
					Cystitis .....	13	6	2	9
					Stricture of Urethra	6	12	17	9
					Dis. of Kidneys, &c.	67	64	73	76
					IX. Paramenia.....	8	2	1	2
					Ovarian Dropsy ...	14	9	14	7
					Childbirth, see Metria	60	62	59	69
					Dis. of Uterus, &c...	42	31	40	43
					X. Arthritis .....	1	1	3	8
					Rheumatism .....	56	61	51	55
					Disease of Joints, &c.	41	46	45	49
					XI. Carbuncle.....	7	3	9	10
					Phlegmon .....	5	4	7	13
					Disease of Skin, &c.	13	13	8	11
					XVII. Intemperance .....	15	17	15	20
					Privation .....	8	9	7	2
					Want of Breast }				
					Milk, see Privation }	37	51	77	54
					Neglect .....	..	2	5	1
					Cold, see Privation..	1	1	1	1
					Poison.....	20	22	28	26
					Burns and Scalds ..	58	49	69	66
					Hanging, &c. ....	41	54	55	93
					Drowning .....	47	59	58	103
					Fractures and Con- tusions .....	129	142	164	168
					Wounds.....	28	20	33	26
					Other Violence ....	18	11	12	11
					Causes not specified	59	101	114	146
I. Small Pox.....	99	191	339	74					
Measles.....	338	264	204	121					
Scarlatina.....	486	429	603	952					
Whooping Cough ....	273	424	286	316					
Croup .....	80	89	93	76					
Thrush .....	38	39	33	27					
Diarrhœa .....	482	316	401	343					
Dysentery.....	79	41	39	31					
Cholera .....	494	23	15	14					
Influenza .....	49	26	34	41					
Purpura and Scurvy	11	13	18	14					
Ague .....	7	5	6	5					
Remittent Fever....	15	23	24	13					
Infantile Fever ....	12	15	12	11					
Typhus .....	558	619	770	634					
Metria, or Puer- peral Fever, see Childbirth.....	56	55	69	46					
Rheumatic Fever, } see Rheumatism }	20	14	21	24					
Erysipelas.....	109	87	116	67					
Syphilis.....	18	29	43	37					
Noma or Canker, } see Mortification }	3	4	11	5					
Hydrophobia .....	..	..	..	..					
II. Hæmorrhage .....	51	58	38	59					
Dropsy .....	205	183	225	220					
Abscess .....	26	25	20	20					
Ulcer .....	17	18	8	14					
Fistula .....	2	4	6	2					
Mortification .....	36	40	43	45					
Cancer .....	242	219	223	228					
Gout .....	14	17	11	10					

\* Under the head of "sudden deaths," are classed not only deaths described as sudden, of which the cause has not been ascertained or stated; but also all deaths returned by the Coroner in vague terms, such as "found dead," "natural causes," &c. &c.

## REVENUE.

*Abstract of the Net Produce of the Revenue of Great Britain in the Years and Quarters ending 5th April, 1852 and 1853; showing the Increase or Decrease thereof.—(Continued from page 91.)*

[From the "London Gazette."]

Sources of Revenue.	Years ended 5th April.			
	1852.	1853.	Increase.	Decrease.
	£	£	£	£
Customs.....	18,827,828	18,513,189	....	314,639
Excise .....	13,182,698	13,385,498	202,800	....
Stamps .....	5,901,526	6,429,025	527,499	....
Taxes.....	3,691,226	3,194,271	....	496,955
Property Tax .....	5,283,800	5,593,043	309,243	....
Post Office.....	1,051,000	1,045,000	....	6,000
Crown Lands.....	190,000	252,000	62,000	....
Miscellaneous .....	192,000	271,514	79,514	....
Total Ordinary Revenue	48,320,078	48,683,540	1,181,056	817,594
Imprest and other Moneys .	522,686	714,718	192,632	....
Repayments of Advances....	749,643	1,114,548	364,905	....
Total Income.....	49,591,807	50,512,806	1,738,593	817,594
Deduct Decrease .....			817,594	
Increase on the Year .....			920,999	

Sources of Revenue.	Quarters ended 5th April.			
	1852.	1853.	Increase.	Decrease.
	£	£	£	£
Customs .....	4,615,025	4,432,832	....	182,193
Excise .....	2,070,064	2,098,581	28,517	....
Stamps .....	1,515,985	1,657,749	141,764	....
Taxes.....	295,048	111,476	....	183,572
Property Tax.....	2,068,827	2,152,233	83,406	....
Post Office.....	259,000	282,000	23,000	....
Crown Lands.....	80,000	72,000	....	8,000
Miscellaneous .....	41,733	19,518	....	22,215
Total Ordinary Revenue	10,945,682	10,826,389	276,687	395,980
Imprest and other Moneys .	140,441	221,096	80,655	....
Repayments of Advances ....	88,608	171,859	83,251	....
Total Income.....	11,174,731	11,219,344	440,593	395,980
Deduct Decrease .....			395,980	
Increase on the Quarter .....			44,613	

*Consolidated Fund Operations.*—The total income brought to this account in the quarter ended 5th April, 1853, was 11,244,500*l.* The total charge upon it was 7,885,216*l.*, leaving a surplus of 3,359,284*l.*



CORN.

*Average Prices of Corn per Imperial Quarter in England and Wales, during each Week of the First Quarter of 1853; together with the Monthly and Quarterly Average—(Continued from p. 92.)*

[Supplied by the Controller of Corn Returns.]

Weeks ended on a Saturday, 1853.		Weekly Average.					
		Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
January	1 .....	46 7	29 8	18 9	29 7	35 0	32 9
	8 .....	46 0	29 8	18 6	29 1	34 8	32 5
	15 .....	45 10	29 10	18 7	30 8	34 8	30 7
	22 .....	45 8	30 5	18 7	32 5	34 11	31 9
	29 .....	46 0	31 2	18 7	32 2	34 9	31 10
Average for January .....		46 0	30 1	18 7	30 9	34 9	31 10
February	5 .....	46 1	31 8	18 7	31 11	34 7	31 5
	12 .....	45 2	31 5	18 5	30 11	34 10	31 9
	19 .....	44 6	31 1	17 9	29 3	34 5	31 2
	26 .....	45 2	31 3	18 4	30 4	34 5	31 6
Average for February .....		45 2	31 4	18 3	30 7	34 6	31 5
March	5 .....	45 9	31 7	18 3	30 9	34 8	32 6
	12 .....	45 8	31 9	18 6	30 9	34 4	32 9
	19 .....	45 5	31 9	18 10	30 10	34 2	32 11
	26 .....	44 9	31 10	18 9	33 0	34 3	32 6
Average for March .....		45 4	31 8	18 7	31 4	34 4	32 8
Average for the Quarter ....		45 7	31 0	18 6	30 10	34 7	32 0

*Foreign and Colonial Wheat and Wheat-Flour imported in each of the Months ended 5th January, 5th February, and 5th March, 1853; the Quantities Entered for Home Consumption during the same Months; and the Quantities remaining in Warehouses at the close thereof.—(Continued from p. 92.)*

[From the "London Gazette."]

WHEAT.

Months ended	Imported.			Quantities entered for Home Consumption.			In Bond at the Month's end.		
	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.
1853.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.
5th Jan.	242,471	6,322	248,793	242,471	6,322	248,793	2,164	1	2,165
5th Feb.	440,743	159	440,902	411,519	159	441,678	1,387	1	1,388
5th Mar.	136,704	..	136,704	136,704	..	136,704	1,387	1	1,388

WHEAT-FLOUR.

Months ended	Imported.			Quantities entered for Home Consumption.			In Bond at the Month's end.		
	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.
1853.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.
5th Jan.	225,783	12,720	238,503	225,785	12,720	238,505	8	7	15
5th Feb.	305,487	133	305,620	305,487	133	305,620	8	7	15
5th Mar.	260,964	6	260,970	260,964	6	260,970	8	7	15

## CURRENCY.

## BANK OF ENGLAND.

*An Account, pursuant to the Act 7th and 8th Victoria, c. 32, for each Week ended on a Saturday, for the First Quarter of 1853.*

[Compiled from the "London Gazette."]

## ISSUE DEPARTMENT.

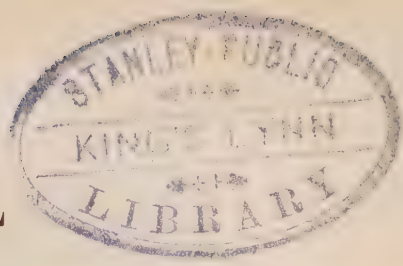
Date.	Notes Issued.	Notes in hands of Public.	Government Debt.	Other Securities.	Gold Coin and Bullion.	Silver Bullion.
1853.	£	£	£	£	£	£
Jan. 1 ...	34,014,005	23,053,510	11,015,100	2,984,900	19,994,851	19,154
" 8 ...	33,107,165	23,297,685	11,015,100	2,984,900	19,151,011	19,154
" 15 ...	32,665,555	23,661,370	11,015,100	2,984,900	18,646,401	19,154
" 22 ...	32,918,040	23,473,775	11,015,100	2,984,900	18,898,886	19,154
" 29 ...	32,494,810	22,983,450	11,015,100	2,984,900	18,475,656	19,154
Feb. 5 ...	32,034,230	22,695,410	11,015,100	2,984,900	18,015,076	19,154
" 12 ...	31,799,710	22,305,085	11,015,100	2,984,900	17,780,556	19,154
" 19 ...	31,748,285	22,080,690	11,015,100	2,984,900	17,729,131	19,154
" 26 ...	31,652,320	21,990,050	11,015,100	2,984,900	17,633,166	19,154
March 5 ...	32,361,900	22,275,870	11,015,100	2,984,900	18,342,746	19,154
" 12 ...	32,378,600	21,713,170	11,015,100	2,984,900	18,359,456	19,154
" 19 ...	32,596,935	21,464,840	11,015,100	2,984,900	18,577,781	19,154
" 26 ...	32,584,005	21,793,695	11,015,100	2,984,900	18,564,851	19,154

## BANKING DEPARTMENT.

Date.	Proprietors' Capital.	Rest.	Public Deposits.	Other Deposits.	Seven Day and other Bills.	Total Dr.
1853.	£	£	£	£	£	£
Jan. 1 ...	14,553,000	3,113,924	9,266,342	12,993,952	1,384,381	41,311,599
" 8 ...	14,553,000	3,176,619	5,771,914	14,310,648	1,489,104	39,301,285
" 15 ...	14,553,000	3,208,878	4,939,878	13,284,158	1,529,567	37,515,481
" 22 ...	14,553,000	3,214,206	4,998,754	13,727,637	1,438,669	37,932,296
" 29 ...	14,553,000	3,218,441	5,235,993	13,066,193	1,440,536	37,514,163
Feb. 5 ...	14,553,000	3,308,432	5,568,205	12,606,230	1,439,998	37,475,865
" 12 ...	14,553,000	3,313,924	6,239,297	12,012,578	1,417,834	37,536,633
" 19 ...	14,553,000	3,313,109	6,738,059	12,081,941	1,344,113	38,031,022
" 26 ...	14,553,000	3,247,336	7,062,129	12,397,543	1,355,814	38,615,822
March 5 ...	14,553,000	3,617,702	7,312,751	12,622,301	1,378,446	39,484,200
" 12 ...	14,553,000	3,622,448	7,607,914	13,051,136	1,292,007	40,126,505
" 19 ...	14,553,000	3,626,365	8,203,555	12,874,698	1,353,498	40,610,116
" 26 ...	14,553,000	3,630,638	8,468,758	12,721,782	1,351,108	40,725,286

Date.	Government Securities.	Other Securities.	Notes.	Gold and Silver Coin.	Total Cr.
1853.	£	£	£	£	£
Jan. 1 ...	13,961,691	15,875,756	10,960,495	19,154	40,311,599
" 8 ...	13,870,796	15,025,553	9,809,480	595,456	39,301,285
" 15 ...	13,870,796	14,157,548	9,004,185	482,952	37,515,481
" 22 ...	13,830,407	14,170,745	9,444,265	486,879	37,932,296
" 29 ...	13,800,613	13,654,165	9,511,360	548,025	37,514,163
Feb. 5 ...	13,764,651	13,705,812	9,338,820	666,582	37,475,865
" 12 ...	13,618,600	13,790,758	9,494,625	602,650	37,536,633
" 19 ...	13,619,393	14,177,702	9,667,595	566,332	38,031,022
" 26 ...	13,488,853	14,926,214	9,662,270	538,485	38,615,822
March 5 ...	13,464,538	15,401,220	10,086,030	532,412	39,484,200
" 12 ...	13,464,538	15,396,827	10,665,430	599,710	40,126,505
" 19 ...	13,464,538	15,447,272	11,132,095	566,211	40,610,116
" 26 ...	13,464,538	15,931,447	10,790,310	538,991	40,725,286





# QUARTERLY JOURNAL

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---

SEPTEMBER, 1853.

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*On the Immediate and Remote Effect of the Remission of Customs and Excise Duties on the Productiveness of those branches of the Revenue.*  
Communicated by DR. GUY.

[Read before the Statistical Society, 16th May, 1853.]

TOWARDS the close of last year, I laid before the Society a communication on the Relation of the Price of Wheat to the Revenue, in which communication I made use of certain results arrived at in previous papers on the Effect of the Remission of Taxes on the Revenue. On the occasion to which I refer, a very general wish was expressed by those who took part in the discussion, that the inquiry into the relation of the price of wheat to the revenue should be extended so as to embrace the effect produced by fluctuations in the price of that first necessary of life on those branches of the revenue—the customs and excise—which seemed most likely to be affected by them. Seeing the interest which the Society took in this subject, I have lost no time in preparing the way for the second branch of the inquiry, by instituting those preliminary investigations to which I have referred as preceding the communication on the Relation of the Price of Wheat to the Revenue. I have accordingly combined in this single communication the two distinct inquiries contained in the papers published in the Journal of this Society in June and September, 1852.

The object of this communication, therefore, is twofold:—1. To examine the effect, immediate and remote, of the remission or increase of customs and excise duties on the productiveness of the revenue from those two sources; and, 2. To prepare the way for the promised inquiry into the relation of the price of wheat to the revenue from customs and excise.

In entering upon the first of these inquiries, it is necessary to premise that the customs and excise duties are here grouped together for the same reason which induced the late Mr. Porter, in his work on the Progress of the Nation, to place them under the same head, namely, the frequent transference of duties from the one to the other. It is necessary further to state that the figures in the first columns of the following tables, headed “customs and excise,” represent the amounts received into the Exchequer from those two sources, after deduction made from the gross receipts of repayments and charges of collection. So that in this case, as in the tables contained in former communications respecting the ordinary revenue, the net receipts are made the basis of the calculations. The figures themselves have been

copied direct from the ninth column, headed "Payments into the Exchequer," of the Finance Returns of the United Kingdom for the period to which the paper refers. The estimated amounts of customs and excise duties reduced or repealed, increased or newly imposed, are taken, as were the corresponding figures in the communications just referred to, from Mr. Cardwell's Parliamentary Return, headed "Public Income and Expenditure, &c.," dated March 16, 1852.

The following table, with the exception of embracing a shorter period of time, is the counterpart of the table contained in the communication printed in the June number of the Journal of the Society for 1852. It presents the amount received into the Exchequer, in the shape of customs and excise duties, in each of the thirty years from 1822 to 1851 inclusive, the amounts in each year following, the increase or decrease, the excess of customs and excise duties reduced or repealed,\* and the effect on the revenue under the three distinct heads of "Revenue restored and surplus of," of "Revenue partially restored to the extent of," and of "Revenue not restored, and further deficiency of."

TABLE I.

Year.	Customs and Excise, Amount received into the Exchequer.	Customs and Excise in the year following.	Increase or Decrease.	Excess of Customs' and Excise Duties Reduced or Repealed.	Revenue Restored and Surplus of.	Revenue Partially Restored to the extent of.	Revenue not Restored, and further Deficiency.
1822	37,947,025	36,841,590	- 1,105,435	1,901,101	....	795,666	....
1823	36,841,590	38,095,781	+ 1,254,191	1,667,107	1,254,191	....	....
1824	38,095,781	37,546,011	- 549,770	1,430,170	....	830,795	....
1825	37,546,011	36,452,731	- 1,093,280	3,258,549	....	2,165,269	....
1826	36,452,731	36,333,112	- 119,619	1,725,987	....	1,606,368	....
1827	36,333,112	37,995,094	+ 1,661,982	21,402*	1,640,580	....	....
1828	37,995,094	26,751,851	- 1,243,243	50,032	....	....	1,193,21
1829	36,751,851	36,184,707	- 567,144	126,406	....	....	440,73
1830	36,184,707	32,819,296	- 3,365,411	3,397,951	....	97,540	....
1831	32,819,296	33,406,029	+ 586,733	995,950	586,733	....	....
1832	33,406,029	32,752,652	- 653,377	702,738	....	49,361	....
1833	32,752,652	33,294,552	+ 541,900	976,754	541,900	....	....
1834	33,294,552	33,615,273	+ 320,721	644,227	320,721	....	....
1835	33,615,273	36,042,885	+ 2,427,612	165,877	2,427,612	....	....
1836	36,042,885	33,958,420	- 2,084,465	708,795	....	....	1,375,67
1837	33,958,420	34,478,417	+ 519,997	396*	519,601	....	....
1838	34,478,417	35,093,633	+ 615,216	8,134*	607,082	....	....
1839	35,093,633	35,536,468	+ 442,835	63,418	442,835	....	....
1840	35,536,468	35,577,680	+ 41,212	1,844,196*	....	....	1,802,98
1841	35,577,680	33,542,791	- 34,889	27,170	....	....	7,71
1842	33,542,791	33,911,246	+ 368,455	1,214,436	368,455	....	....
1843	33,911,246	35,812,872	+ 1,901,626	411,821	1,901,626	....	....
1844	35,812,872	33,782,439	- 2,030,433	356,851	....	....	1,673,58
1845	33,782,439	34,557,219	+ 774,780	4,511,841	774,780	....	....
1846	34,557,219	32,908,108	- 1,649,111	1,149,790	....	....	499,32
1847	32,908,108	35,153,187	+ 2,245,079	344,886	2,245,079	....	....
1848	35,153,187	34,622,284	- 530,903	585,968	....	55,065	....
1849	34,622,284	34,758,254	+ 135,970	388,798	135,970	....	....
1850	34,758,254	35,057,419	+ 299,165	790,151	299,165	....	....
1851	35,057,419	35,386,614	+ 329,195	801,064	329,195	....	....

\* The asterisk in the fourth column of the table marks the exceptional years in which the customs' and excise duties increased or newly imposed exceeded those reduced or repealed.



In the thirty years comprised in this table, customs and excise duties have been remitted in excess of duties increased or newly imposed to the amount of 26,474,105*l*. In twenty-six out of the thirty years, the taxes reduced or repealed have exceeded those increased or newly imposed; while in the remaining four years, an opposite state of things prevailed. During these same thirty years, the total amount of taxes of all kinds reduced or repealed, in excess of those increased or newly imposed, amounted to 28,679,980*l*.; so that the balance of duties remitted in the customs and excise fell short by little more than two millions of the balance of all the duties remitted.

The immediate effect of this remission of customs and excise duties upon the productiveness of those branches of the revenue, in the twenty-six years, is shown in the following abstract, based on the figures contained in the last three columns of the table :—

1. Revenue from customs and excise restored with further increase	13 years.
2. Revenue partially restored .....	7 „
3. Revenue not restored and further falling off .....	6 „
4. Revenue wholly or partially restored .....	20 „

Of the four years in which the customs and excise duties increased or newly imposed exceeded those reduced or repealed, the amount of additional taxes was realised with further addition in three, and not realised in one. If the whole thirty years are divided into the three groups of successful, partially successful, and unsuccessful years, the results of the financial operations of the several years will be as follows :—

1. Successful years.....	16
2. Partially successful years .....	7
3. Unsuccessful years .....	7

It will be interesting and instructive to compare this result of the remission of excise and customs duties with the result of the remission of duties and taxes of all kinds, customs and excise duties included, in the same thirty years. This comparison is made in the following table :—

TABLE II.

	Customs and Excise.	All Branches.
1. Successful years.....	16	12
2. Partially successful years ....	7	7
3. Unsuccessful years.....	7	11

It appears, then, that the immediate effect of the repeal of customs and excise duties on the revenue derived from those two sources is more favourable than the immediate effect of the repeal of imports of every kind on the total net ordinary revenue from all sources.

In some of the years comprised in the table, the immediate effect of the remission of customs and excise duties on the yield of those branches of the revenue was very remarkable; but I must content myself with one illustration.

In the year 1845, customs and excise duties to the amount of 4,511,841*l.* were remitted, and yet the customs and excise in the following year, 1846, had not only recovered themselves, but actually exhibited an increase of 774,780*l.*

The total amount of customs and excise duties reduced or repealed in excess of duties increased or newly imposed is, as has been already stated, 26,474,105*l.*; but as the amount of customs and excise duties in 1851 falls considerably short of the amount in 1822, the gain to the nation is represented by a smaller amount. In 1822, the customs and excise yielded 37,947,025*l.*, and in 1851, 35,057,419*l.* There was, therefore, a falling off of 2,889,606*l.*; and the sum remitted under the head of customs and excise duties, without injury to the revenue, is 26,474,105*l.*, less 2,889,606*l.*, or 23,584,499*l.*

The same sort of calculation for the respective periods of five, ten, fifteen, and thirty years, is made in the following table, which is the counterpart of Table II. contained in the communication made to the Society on the 21st of June, 1852, with the exception that the net revenue from customs and excise duties is substituted for the net ordinary revenue.

TABLE III.

	Customs and Excise in First Year of the Series.	Customs and Excise in Last Year of the Series.	Increase or Decrease.	Excess of Customs and Excise Duties Reduced or Repealed.	Gain to the Nation.
<i>Periods of Five Years.</i>					
1822 to 1826	37,947,025	36,452,731	-1,494,294	9,933,309	8,439,015
1827 „ 1831	36,333,112	32,819,296	-3,513,816	4,548,937	1,035,121
1832 „ 1836	33,406,029	36,042,885	+ 2,636,856	3,198,391	6,835,247
1837 „ 1841	33,958,420	35,577,680	+ 1,619,260	1,762,138*	142,878†
1842 „ 1846	33,542,791	34,557,219	+ 1,014,428	7,644,739	8,659,167
1847 „ 1851	32,908,108	35,057,419	+ 2,149,311	2,910,867	5,060,178
<i>Periods of Ten Years.</i>					
1822 to 1831	37,947,025	32,819,296	-5,127,729	14,482,246	9,354,517
1832 „ 1841	33,406,029	35,577,219	+ 2,171,190	1,436,253	3,607,443
1842 „ 1851	33,542,791	35,057,419	+ 1,514,628	10,555,606	12,070,234
<i>Periods of Fifteen Years.</i>					
1822 to 1836	37,947,025	36,042,885	-1,904,140	17,680,637	15,776,497
1837 „ 1851	33,958,420	35,057,419	+ 1,098,999	8,793,468	9,892,467
<i>Period of Thirty Years.</i>					
1822 to 1851	37,947,025	35,057,419	-2,889,606	26,474,105	23,584,499

\* Excess of customs and excise duties imposed or increased. † Loss.



The general results to be derived from this table agree very closely with those deduced from the table already referred to, as embracing the net ordinary revenue. With the single exception of the quinquennial period 1837 to 1841, when the customs and excise duties increased or newly imposed exceeded those remitted or repealed, and the nation sustained a loss in customs and excise duties of 142,878*l.*, all the periods exhibit a more or less successful financial result. The remission of those duties proved eminently successful when measured by its effect on that portion of the public revenue which is derived from those sources. Duties to the amount of more than twenty-six millions were remitted in the thirty years under review, the revenue at the beginning of the period having been less than thirty-eight millions, and the decrease at the end of the period being less than three millions. In other words, upwards of twenty-six millions, out of a revenue amounting to less than thirty-eight millions, have been sacrificed during the last thirty years, and yet the whole of that twenty-six millions, with the exception of less than three millions, has been replaced. This is obviously a more successful result than was displayed by the total net ordinary revenue derived from all sources, inclusive of customs and excise; for out of the larger sum of nearly fifty-four millions, to which the net ordinary revenue amounted in the year 1822, the excess of duties remitted amounted to less than twenty-nine millions, and the loss to the revenue to about two millions. The comparison now instituted will be better understood by means of the following table:—

TABLE IV.

	Customs and Excise.	Residue.	Net Ordinary Revenue.
Revenue in 1822.....	37,947,025	15,705,448	53,652,473
„ 1851.....	35,057,419	16,612,134	51,669,553
Difference .....	2,889,606	906,686*	1,982,920
Excess of duties remitted .....	26,474,105	2,205,875	28,679,980
Remitted without loss to revenue .....	23,584,499	3,112,561	26,697,060
Per-centage proportion of revenue in 1822 .....	62	19	50

\* Increase.

The elasticity of that part of the revenue which consists of customs and excise duties is placed by this table in a very striking light; for while the remissions effected, in the thirty years from 1822 to 1851, in the net ordinary revenue, without entailing loss, amounted to 50 per cent., and in the residue, consisting of duties other than those of customs and excise, to 19 per cent., the remissions effected in the customs and excise, without impairing the productiveness of those branches of the revenue, amounts to no less than 62 per cent.

A similar result, as regards this class of duties, is obtained, when the necessary corrections for increase of population are made, as in the following table, which, it will be observed, is a counterpart of Table III., inserted in the communication made to the Society, June, 1852.

TABLE V.

	Customs and Excise in First Year of the Series. A.	Gain to the Nation. B.	Sum of A and B.	Calculated Amount of Customs and Excise, in Last Year of Series, supposing an Increase equal to the Increase of Population, and no Remis- sion of Taxes.	Gain or Loss to the Nation, corrected.
<i>Periods of Five Years.</i>					
1822 to 1826	37,947,025	8,439,015	46,386,040	40,793,040	+ 5,593,000
1827 „ 1831	36,333,112	1,035,121	37,368,233	39,058,094	— 1,689,861
1832 „ 1836	33,406,029	6,835,247	40,241,276	35,744,451	+ 4,496,825
1837 „ 1841	33,958,420	142,878†	33,815,542	36,335,509	— 2,519,967
1842 „ 1846	33,542,791	8,659,167	42,201,958	35,555,358	+ 6,646,600
1847 „ 1851	32,908,108	5,060,178	37,968,286	34,942,594	+ 3,025,692
<i>Periods of Ten Years.</i>					
1822 to 1831	37,947,025	9,354,517	47,301,542	43,639,076	+ 3,662,466
1832 „ 1841	33,406,029	3,607,443	37,013,472	38,082,871	— 1,069,399
1842 „ 1851	33,542,791	12,070,234	45,613,025	37,567,925	+ 8,045,100
<i>Periods of Fifteen Years.</i>					
1822 to 1836	37,947,025	15,776,497	53,753,522	46,295,370	+ 7,458,152
1837 „ 1851	33,958,420	9,892,467	43,850,887	40,410,519	+ 3,440,368
<i>Period of Thirty Years.</i>					
1822 to 1851	37,947,025	23,584,499	61,531,524	55,782,226	+ 5,749,298

† Loss.

The results obtained from this table are the same in kind as the results of the table just referred to,\* but they are generally greater in amount; for where there is a gain, it is uniformly greater, and where there is a loss, it is, with one exception, uniformly less. This superior elasticity and productiveness of the customs and excise duties will, however, be best seen in the following tabular comparison, in which the gain or loss to the nation accruing from changes in the customs and excise duties and in the ordinary revenue respectively for the several periods of five, ten, fifteen, and thirty years, are placed side by side in parallel columns.

\* Table III. of the paper “On the Effect of the Remission of Taxes on the Revenue in the Thirty Years from 1822 to 1851 inclusive,” read before the Statistical Society of London, 21st June, 1852, and published in the fifteenth volume of this Journal, p. 223.



The first column of the table is the same as the last column of Table V., while the second column, headed "Net Ordinary Revenue," is taken from the last column of Table III., inserted in the communication laid before the Society in the month of June, last year.

TABLE VI.

	Gain or Loss to the Nation.	
	Customs and Excise.	Net Ordinary Revenue.
<i>Periods of Five Years.</i>		
1822 to 1826 ....	+ 5,593,000	+ 4,835,764
1827 „ 1831 ....	— 1,689,861	— 2,572,840
1832 „ 1836 ....	+ 4,496,825	+ 3,370,119
1837 „ 1841 ....	— 2,519,967	— 2,478,722
1842 „ 1846 ....	+ 6,646,600	+ 5,885,225
1847 „ 1851 ....	+ 3,025,692	+ 2,241,932
<i>Periods of Ten Years.</i>		
1822 to 1831 ....	+ 3,662,466	+ 1,913,697
1832 „ 1841 ....	— 1,069,399	— 1,545,015
1842 „ 1851 ....	+ 7,945,100	+ 6,796,150
<i>Periods of Fifteen Years.</i>		
1822 to 1836 ....	+ 7,458,152	+ 5,346,659
1837 „ 1851 ...	+ 3,440,368	+ 3,161,001
<i>Period of Thirty Years.</i>		
1822 to 1851 ....	+ 5,749,298	+ 1,480,398

It will be seen that there is no period of years comprised in this table in which the gain to the nation from the remission of customs and excise duties is not greater than the gain to the nation arising from the remission of all duties, including the customs and excise; and that, with the exception of the quinquennial period from 1837 to 1841, the loss sustained is less. It follows, therefore, that there must have been a considerable loss entailed upon the revenue by the remission of duties belonging to that portion of the national receipts which has been designated in Table IV. as the residue. This statement is so fully borne out by the per-centage proportions in Table IV., that it is not necessary to enter into more minute calculations. The increase of the net ordinary revenue in the thirty years from 1822 to 1851 amounts, it will be seen, to about 50 per cent., being somewhat more than the per-centage increase of population for the same period, which was 47 per cent. This very moderate increase coincides with and confirms the moderate annual gain to the nation which was estimated in a former communication at 50,000%. On the other hand, while the financial operations in the departments of customs and excise have issued in an increase of 62 per cent., the increase of population having been 47 per cent., the financial operations bearing upon the residue

have yielded an increase of only 19 per cent., or considerably less than half that which would have been brought about by mere increase of population, had no reduction of duty taken place. These figures, then, are in perfect harmony with each other, at the same time that they confirm the results already arrived at in this communication, in proof of the greater elasticity of the revenue derived from customs and excise. While the increase in the net ordinary revenue exceeded the increase attributable to increase of population by about fifty thousand per annum, the increase in the two departments of the customs and excise amounted to no less than  $\frac{5,749,298}{30}$ , or 191,643*l.*, or between three and four times as much.

The results of the present inquiry, then, may be summed up as follows:—

1. The immediate effect of a remission of customs and excise duties on the revenue derived from those two sources is greater than the immediate effect of a remission of all duties, without exception, on the net ordinary revenue.

2. The effect of a remission of customs and excise duties on the productiveness of the revenue derived from those two branches is proportionably greater for periods of five, ten, fifteen, and thirty years, than the effect of the remission of imposts of all kinds (customs and excise duties included) on the productiveness of the net ordinary revenue for the same periods of time.

3. The increase of the customs and excise duties for the last thirty years has been at a greater rate than the increase of the net ordinary revenue; for while the annual increase in the net ordinary revenue has exceeded the increase due to the growth of population by only 50,000*l.* per annum, the increase in the departments of the customs and excise has exceeded by upwards of 190,000*l.* per annum the increase due to that cause.

By the calculations contained in this communication, the way is prepared for an inquiry into the effect of variations in the price of wheat on the productiveness of customs and excise duties, the results of which inquiry I hope to be able to lay before the Society on some future occasion.

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*Statistics of the Island of Portsea.*

[Communicated to the British Association for the Advancement of Science by the Portsmouth and Portsea Literary and Philosophical Society, and read before the Statistical Section, at Belfast, September, 1852.]

(Continued from page 168.)

*The Dockyard.*

AMONGST the Government Establishments at Portsmouth, the Naval Arsenal is that which has long exerted the greatest influence upon the character and interests of the place. The town of Portsea is the most intimately associated with those interests; but they extend beyond that town, and, in different degrees, affect both the town of Portsmouth and the large and constantly-increasing suburbs. Hence the condition of Portsmouth, Portsea, and the suburbs, cannot be fully estimated apart from the dockyard.

Influence of  
the Dockyard  
on the locality.

The extent to which the duties of the dockyard are carried, and the description of those duties, bear upon the commercial as well as upon the strictly social interests of the place.

The dockyard is more especially a repairing and fitting-out, rather than a building yard. The fitting-out and paying off of ships at this port have a considerable effect on the commerce of the towns; as, in the first place, large numbers of both officers and seamen come here, having to provide, at least partially, for wants which they expect will extend over a period of three or four years; and, in the second, considerable portions of their salaries and wages are put into circulation, still further bearing upon the commerce of the towns. This being the case, a statistical report of Portsmouth would be incomplete, if it did not include the dockyard. The following report of that establishment has been therefore undertaken.

The dockyard at Portsmouth is perhaps the oldest establishment of its kind in the kingdom. On the southern coast of England, in the neighbourhood of this place, the infant navy in the time of Alfred the Great performed its feat of valour; no means, however, remain to identify it with this place. But that event, and many others which followed in the course of England's growth, showed the necessity of some establishment on this coast for building ships and vessels, and for their careful preservation in the winter season. There is historical evidence, that in the reign of John, docks were used for the king's ships and vessels at Portsmouth; but it does not appear whether they were constructed in that reign, or whether they had been constructed before.

Antiquity of  
the Dockyard.

The late Sir Nicolas Harris Nicolas, in the first volume of his History of the Royal Navy, chapter 6, p. 147, says: "In May, 1212, the sheriff of Southampton was commanded to cause the docks at Portsmouth to be inclosed with a strong wall, in the manner which the archdeacon of Taunton would point out, for the preservation of the king's ships and galleys; and the sheriff was also to cause penthouses to be erected for their stores and tackle;" referring to "*Rotuli Literarum Clausarum*," p. 117, as his authority.

Town burnt  
by the French.

It may not be practicable to trace its history from that time; but as the harbour of Portsmouth always continued to be important to the navy of England, it is probable that the dockyard was always kept up, subject to changes, as the general aspect of the nation or that of the locality changed. In 1337 or 1338, the French, having disguised themselves, came upon the town, and succeeded in burning it. No mention is made of the dockyard in the record of that event; but it can hardly be supposed that, whilst they destroyed the town, they would spare the arsenal.

Harbour  
defences  
constructed.

To guard against the recurrence of such a calamity from the sea, military defences were constructed at the entrance of the harbour so early as about the year 1418. And Camden speaks further of "two block-houses at the entry of the haven, made of new heaven stone, which being by King Edward the Fourth begunne, King Henrie the Seaventh, as the inhabitants report, did finish, and strengthened the towne with a garrison."—*Britannia*, ed. 1610, p. 268.

It appears that early in the reign of Henry VIII., the dockyard assumed more decidedly the condition of an *establishment*; and in the early period of the British royal navy, Portsmouth was a most important rendezvous for it.

Loss of the  
"Mary Rose."

A fleet having been assembled here in 1545, was going out to engage a French fleet off the coast, when the "Mary Rose," one of the largest ships in the navy, under some unskilful management, overturned and sank. Little progress in development was, however, made until the British navy advanced in importance, according as national and widely-extended conflicts gave the English a more comprehensive range of interests, and elevated their power upon the ocean.

State of Dock-  
yard in 1650.

Mr. Charnock, and, after him, Mr. Derrick, recorded a tradition of the state of this dockyard at the middle of the 17th century; and immediately afterwards Mr. Charnock says, in a note: "Thomas Waite, quartermen, came into Portsmouth yard in 1650; at that time there was no mast-house nor dry dock; not more than one hundred shipwrights, and but one team of horses."

First dry dock  
constructed.

"Isaac Hancock, quartermen, came to the yard in 1661; remembers that the first dry dock was made when Jamaica was taken [1655]; number of shipwrights as above, and forty or fifty labourers."

Mr. Derrick, in recording this tradition, says it was communicated by the two individuals above mentioned, when they were old men, to a gentleman who was living in 1805 or 1806.

Commis-  
sioner's house  
built.

Soon after the restoration, the establishment was improved by the erection of buildings; the first of these, of which we find any record, was the commissioner's house, which was begun in 1664, and finished in 1666; the commissioner had previously lived in Portsmouth. It appears to have been some years later when houses were built for the principal officers of the dockyard.

Ships built in  
17th century.

A considerable quantity of work was executed in this yard during the last half of the 17th century. The following table contains the names, rates, and tonnage, of all the ships built at this yard during that period, as far as we have been able to trace them:—



Rate.	Ship's Name.	Tons.	Guns.	When Built.	Rate.	Ship's Name.	Tons.	Guns.	When Built.
1st	Royal Charles	1,531	100	1673	3rd	Swiftsure ....	978	70	1673
,,	Royal James	1,422	100	1675	4th	Bonaventure..	514	48	1683
2nd	Coronation....	1,427	90	1685	,,	Assurance ....	680	50	1673
,,	St. Michael....	1,101	90	1669	,,	Litchfield ....	....	....	1694
,,	Ossory .....	....	....	1682	,,	Nonsuch.....	368	42	1668
,,	Vanguard ....	1,357	90	1678	,,	Phoenix .....	389	42	1671
3rd	Eagle .....	1,047	70	1679	,,	Weymouth ....	673	48	1693
,,	Expedition ....	1,059	70	1679	5th	Dartmouth ....	265	....	1655
,,	Monk .....	703	60	1659	,,	Richmond ....	211	....	1655
,,	Montague ....	829	60	1654	6th	Greyhound —	184	16	1672
,,	Russell .....	1,177	80	1692	,,	Newport.....	....	24	1694
,,	Shrewsbury ..	....	....	1694	,,	Sandadoes ....	....	16	1675

The preceding table shows that towards the close of the period which it includes, the *new* work performed in this yard was less than it had been some time previously. And the following table shows that the number of shipwrights employed in the yard in the two years 1694 and 1697 was comparatively small, whilst in the former of those years, the number of *riggers* was greater than three-fifths of the number of shipwrights, apart from their apprentices, or servants, as they were called in the official language of that time. This relative condition of the workmen indicates the general character of the work that was carried on in the establishment at that time, that is, during the war. It appears by the original documents from which these details have been taken, that the *prest* shipwrights and caulkers were in the condition of the hired artificers of the present day, employed only whilst the duties of the yard were too great for the established complement of artificers.

Number of  
artificers.

Description of Workmen.	1694.	1697.	1699.	Description of Workmen.	1694.	1697.	1699.
Shipwrights .....	59	67	216	Bricklayers and masons	....	....	26
Prest ditto .....	25	43	....	Ditto apprentices .....	....	....	4
Shipwrights' apprentices	30	31	109	Sailmakers .....	....	....	8
Prest ditto .....	2	6	....	Sailmakers' apprentices	....	....	2
Apprentices to carpenters of ships .....	18	16	....	Oar-maker .....	....	....	1
Caulkers .....	9	29	41	Blockmakers .....	....	....	3
Prest ditto .....	7	11	....	Locksmith .....	....	....	1
Caulkers' apprentices .....	....	1	9	Locksmith's apprentice	....	....	1
Prest ditto .....	....	3	....	Riggers .....	53	....	42
Joiners .....	22	7	39	Sawyers .....	36	24	34
Joiners' apprentices .....	4	1	6	Scavellmen .....	....	....	17
House carpenters .....	....	....	53	Labourers .....	37	4	250
House carpenters' apprentices .....	....	....	3	Pitch-heaters .....	2	2	2
Plumbers .....	....	....	2	Oakum boys .....	3	20	25
				Quarter boys .....	3	7	12

Peace was restored; and it appears that a great change was made in the establishment between April, 1697, and Midsummer, 1699. The number of shipwrights and of their apprentices, and the number of labourers, were greatly increased; the number of riggers was

diminished; and various classes of workmen in small numbers were placed on the list, which it does not appear were on the establishment before; the work for which they were now introduced may have been previously done by contract. And still there were other workmen employed which are not described in the pay-list referred to: no ropemakers are mentioned, whilst the staff of the dockyard included a master ropemaker and a clerk of the rope-walk. And further, an order was given in 1688, that when cables were made in the rope-house, all the men of the fleet were to assist.

The following particulars will show that during the war, the condition of the officers underwent a revision. In December, 1691, the payment of the officers' salaries was ordered to be made at the dockyard, when the annual amounts were as follow:—

Master Shipwright	76 <i>l.</i> 10 <i>s.</i> , with 1 <i>s.</i> a-day exchequer fee.
Master Shipwright's Assistant	20 <i>l.</i>
Storekeeper	50 <i>l.</i>
Master Caulker	10 <i>l.</i>

A large proportion of the emoluments of officers was then derived from various perquisites; one of these was the apprentices which the regulations of the service allowed them to take. The premiums which persons were willing to pay to superior shipwright officers, to have their sons apprenticed to them, and the wages which the masters received on account of their apprentices during the term of service, amounted to no inconsiderable sum.

By an Order in Council of the 19th December, 1695, a new rate of salaries was authorized, and ordered, in the following January, to be carried into effect, as follows:—

Master Attendant	} 200 <i>l.</i> per annum each.
Master Shipwright	
Storekeeper	
Clerk of the Cheque	
Clerk of the Survey	} 100 <i>l.</i> per annum each.
Master Shipwright's Assistant	
Master Caulker	
Master Ropemaker	
Clerk of the Ropeyard	80 <i>l.</i> per annum.
Boatswain of the yard	30 <i>l.</i> „
Porter	3 <i>s.</i> per diem.
Master Mastmaker	} 2 <i>s.</i> 6 <i>d.</i> „
„ Boatmaker	
„ Sailmaker	
„ House Carpenter	
„ Bricklayer (or Mason)	3 <i>s.</i> „
Foreman of Shipwrights	2 <i>s.</i> 6 <i>d.</i> „
Quartermen	2 <i>s.</i> „
Foreman of Riggers	1 <i>s.</i> 6 <i>d.</i> „
Foreman of Labourers and Scavellmen	40 <i>l.</i> per annum.
Chirurgion of the yard	Purveyor 50 <i>l.</i> per annum, besides travelling charges.

Various extra allowances to the master shipwright and the clerk of the cheque, and all extra allowances to the master ropemaker and the clerk of the rope-yard, were at the same time cut off. By a letter from the Navy Office, written during the same month, it was ordered



that the salary of the second master attendant should be the same as the first master attendant's, and the salary of the second assistant to the master shipwright the same as that of the first assistant. Apprentices continued to be a source of emolument to the professional officers down to the date when the Board of Revision sat, early in the present century. The master shipwright was allowed to have five apprentices, each of his assistants three, and the other officers of inferior grades had also their apprentices. The same form of perquisite was extended, with limitation, to the artificers; but in this grade the emolument did not exceed the current proportion of the wages: a premium was out of the question when the master was a working shipwright. An artificer having an apprentice was legally entitled to his service during the whole of the term, and if he died during that term, then his representatives were entitled to the advantage of the apprentice's service till the expiration of the term.

The artizans were allowed as a perquisite the chips which they had made at their work, in the reign of Charles II. The value of this privilege was never definite, although it was considerable at the close of the 17th century and early in the 18th, when wood was the principal, if not the exclusive, article of fuel in this part of England. The system of adding perquisites to a small pecuniary remuneration, was tried with both officers and artizans for more than a century. But such privileges were generally liable to encroachment on the part of those who enjoyed them, and the Navy Board endeavoured, from time to time, to fix such conditions to the exercise of the privilege of chips, as appeared likely to protect the interests of the Government. All efforts seem, however, to have failed of defining and limiting the extent of that privilege in such a way as to ensure mutual satisfaction, perhaps because that mode of remuneration was essentially vicious in principle. Under a wiser economy of more recent institution, the salaries and wages of officers and men have been finally adjusted, on the condition that they should be the exclusive direct rewards of service.

The care of the dockyard during the night was entrusted to watchmen, and it appears that some time before the Restoration, the number was increased. When the establishment underwent a revision, after that event, it was deemed that some abatement might be made in the care and expense bestowed on this object. The Navy Board, therefore, having received general instructions from the Duke of York on the 28th January, 1661-2, issued their order on the 10th May, 1662, "that the watchmen should be reduced to the ancient number of four; and for the better discovery of the good or ill performance of their duty," they ordered that a bell should be hung up at each watch-house, to answer one another by striking every half-hour; and in their letter to the officers of the dockyard, they stated that four bells had been ordered to be sent to Portsmouth for this use. It appears that little danger was apprehended during the night; the smallness of the number of watchmen implies this; and it is further intimated by the fact that persons were allowed to pass in and out of the dockyard as they chose, by night as well as by day. When the time of the Revolution drew near, and the state of the nation became unsettled, it was deemed unsafe to continue this liberty. On the 19th November, 1688,

Watchmen

therefore, Sir Richard Beach, the resident commissioner, wrote to the clerk of the cheque, storekeeper, and porter, stating that "it had been a common practice in this yard to leave the dock gates unlocked all night, whereby his Majesty's stores were exposed to thievery and embezzlement, and people coming in and out at all hours in the night, which did and might prove very hazardous and prejudicial to his Majesty's service." He then directed that the gate should be locked and bolted precisely at eight o'clock at night in winter, and nine in the summer, and that no person should be let in or out after that time, till the watch was relieved in the morning.

At the crisis, however, a more efficient guard was required in the dockyard; danger seemed imminent; for the Irish soldiers who had been quartered in the garrison, it was said, were very insolent, and even threatened the destruction of the naval establishment.

In the alarm thus produced, Sir Richard Beach ordered the artificers and labourers to attend on the 13th December, armed with firelocks and provided with ammunition, and to mount guard for the protection of the dockyard during the night.

The master shipwright was directed to have the command of the guard till midnight, and his assistant to succeed him then, and retain the command till the watch was relieved in the morning.

It was at the same time ordered, that if the same guard should be required on the night of the 14th, the clerk of the cheque and clerk of the survey successively were to command it; and if it were required to be repeated the third night, the storekeeper and boatswain of the yard were similarly to have charge of it.

It does not appear that the watch was very strictly kept by the four watchmen of the dockyard, for on the 31st December, 1689, the commissioner wrote to the clerk of the cheque: "Whereas it is become a common practice with the watchmen of this yard to keep in their watch-houses the time of their watch in the night, and to omit the striking of the bell, whereby the people cannot know the certain time of the night; and when they do strike, they strike commonly more or less than the hour is, being half asleep and half awake as they come out of their watch-houses, whereby their Majesties' stores and houses are exposed to thievery, embezzlement, or fire, by their remissness in their duty. These are therefore to direct and require you to let them know, at the time of their going to the watch, that, for the time to come, those which shall be found to sleep in the time of their watch, in their cabins, and not to strike the bell true, whereby we may know the certain time of the night, shall not only be discharged and checked their wages, but shall receive such further punishment as the Commissioners of the Admiralty shall impose; it being death for a sentinel to forsake his post, or sleep on his watch, and I think the charge of this is not inferior to that."

The system was, however, defective in its character, and admonition appears to have failed of making it what it was required to be. In a time of danger, this was perceived, and efficiency was sought to be realised in supervision.

Information was conveyed to the Commissioners of the Admiralty in 1696, "that some evil designs were then intended by ill-disposed people against the magazine here and that part of the royal navy as



were lodged at this port, for prevention whereof, by particular injunction from the Honourable Navy Board, it was required for the more effectual disappointment of such attempts," and the resident commissioner issued an order accordingly on the 4th November of that year, that the respective officers of this yard should take the nightly watch by turns, as the most suitable means to frustrate those intentions. This practice fell into neglect after some time, but during the War of the Succession it was revived, apparently with a greater degree of strictness.

In January, 1704-5, fears were entertained of machinations on the part of the enemy. The slender protection of the dockyard at that time, coupled with the permission to persons to pass in at the dockyard gates at unseasonable hours of the night, "under pretence of belonging to her Majesty's ships either lying in the docks or at the jetty heads," exposed the yard, it was alleged, "in a more easy manner than could be wished for by the enemy." The officers belonging to the dockyard were therefore directed to attend, in turns, regularly and personally to the charge of the nightly watch, and to report to the commissioner in the morning the occurrences of the night. The list included almost all who had any authority in the dockyard; the clerk of the cheque was not, however, included. But as it will show very nearly what was the official staff at that time, it is added :

"A list of such officers (and others) as are appointed to inspect the watch each night in this her Majesty's yard, viz. :—

1. Master Attendant	During the war, and that they do not lie on board the ships in ordinary.	17. Master Bricklayer
2. Master Attendant		18. Master Sailmaker
3. Master Shipwright		19. Porter of the yard
4. Storekeeper		20. Mr. Deane, Freemason
5. Clerk of the Survey		21. Mr. Brown, Quartermen
6. First Assistant.		22. Mr. Merrett, Blockmaker
7. Second Assistant		23. Mr. Autram, Teamer
8. Master Caulker		24. Mr. Hartfield, Twicelaid Ropemaker
9. Clerk of the Ropeyard		25. Mr. Hamond, Foreman Shipwright
10. Master Ropemaker		26. Mr. Durley, Foreman Caulker
11. Surgeon		27. Mr. Eastwood, Foreman afloat
12. Boatswain of the yard		28. Mr. Betts, Quartermen
13. Master Mastmaker		29. Mr. Leggatt, Foreman Mastmaker
14. Master Boatbuilder		30. Mr. Holmes } Quartermen
15. Master Joiner		31. Richard Dixon }
16. Master House Carpenter		32. Ben. Lodd, Foreman yard
		33. Mr. Smith, Teamer

On the 15th February following, Commissioner Gifford addressed another letter to the officers, complaining that not more than two or three of them complied with that part of the preceding order which required them to render to him in the morning an account of the occurrences of the night, and informing them that whoever should for the future omit to do so might "expect to be respited."

The civil guard of the dockyard was afterwards placed upon somewhat different footing. An officer, called the *master warden*, had the control of it, and the persons charged with keeping watch during the day were called *wardens*. a Master Warden and Wardens.

In the night, watchmen, being men employed by day in the dock- Watchmen.

yard, took their stations, voluntarily undertaking this duty, in addition to their labour in the day, for certain additional remuneration. Until that system of police was abolished, the officers continued to exercise a supervision over the nightly watch.

Military  
guard.

A military guard was also stationed in the dockyard, both by day and by night.

Police.

On the 27th February, 1834, an entirely new form of civil guard was introduced—the present police force, under a lieutenant of the navy, with the style of director of police. The established number is ninety-one. A third part of this number is constantly on duty at the same time, by night and by day.

Military  
guard.

The military guard remains as formerly: it consists of 1 captain, 2 subalterns, 3 sergeants, 5 corporals, 2 drummers, and 63 privates. 21 sentinels are constantly on duty.

Docks.

Until the year 1698, the only dock in this yard was a wet dock. When, therefore, a ship required any external repair below the part which could be got at by the ebbing of the tide, such ship had to be sent either to Chatham or Woolwich for that purpose.

Towards the close of the 17th century, a basin was constructed on the western side of the yard, facing the harbour, of the following dimensions: from north to south, 218 feet, and from east to west, 247·5 feet, and it occupied an area of  $1\frac{1}{4}$  acre. The breadth of the entrance was 53 feet. It was enclosed with two pairs of gates, one pair opening externally, and the other opening internally. Within this basin, and on its eastern side, a dry dock was built, 247 feet 6 inches long, and 82 feet 6 inches broad at the upper part; and the first large ship that was taken into it was the “Royal William;” this was on the 28th June, 1698.

“She drew 17 feet 3 inches water abaft; there was 19 feet water in the wet dock at that time, and the rise of the tide then was 14 feet; therefore the ship drew 3 feet 3 inches water more, and the water in the said dock was 5 feet deeper than the tide flowed [rather ebbed], which difference was occasioned by digging away the ground of the dock so much below the surface of the low-water level, and is to be pumped out of the dry dock by the measures prepared for that purpose.”—(Letter from the officers of the dockyard to Commissioner Greenhill, dated 10th November, 1698.)

Another dock was in the course of construction at the same time, and a third was formed before the year 1725. A new dock was made on the eastern side of the basin, 206 feet  $1\frac{1}{2}$  inch long at the bottom, and 229 feet 9 inches at the top, 34 feet 3 inches broad at the bottom, and 84 feet 8 inches at the top. It is 26 feet 2 inches deep, and contains water to the depth of 19 feet 4 inches at spring tides.

This dockyard was not brought to a state of maturity until the time when the late Sir Samuel Bentham filled the situation of director-general of works under the Admiralty.

Improvement  
of the Dock-  
yard.

On the 24th April, 1795, the Navy Board, in pursuance of instructions received from the Lords Commissioners of the Admiralty, wrote to Sir Charles Saxton, commissioner at this dockyard, desiring that “Brigadier-General Bentham might have free access into the dockyard at all seasonable times, to make his observation on any mechanical powers used therein.”



Soon after this time, General Bentham conceived the plans for very extended improvements in the dockyard. His primary object appears to have been to make this dockyard as complete as possible for careening, repairing, and fitting out ships. This required increased means of performing such duties, by jetties, docks, and capacity of basins. To this his attention was therefore first directed.

The dockyard occupies an area of 118 acres 1 rood and 9 perches, Area of the Dockyard. having at various times, and lastly in 1848, been enlarged both by the purchase of additional land and by encroachment into the harbour, as the extent of public works in this establishment required greater means for carrying them on. Twelve parcels of land were purchased or otherwise obtained in the year 1711, for enlarging the dockyard, and for the erection of a boundary wall; which was built between June and December in that year. We have not been able to ascertain whether those twelve pieces were all included in an area of 38,985 feet purchased in that year, and for which the sum of 118*l.* 1*s.* 1*d.* was paid. By this enlargement, as it appears, the dockyard was made to include an area of 66 acres, as this is recorded to have been the extent of it in 1712.

The following are the principal buildings in the dockyard:—

The Royal Naval College is a handsome building, in the form of Royal Naval College. the letter H. It was founded by George II., for seventy students, and designated the “Royal Naval Academy.” The foundation-stone was laid on the 8th May, 1730, on the north side, under the dining-room; and on the 12th May, 1732, it is stated another wing was to be built. In 1733, Commissioner Hughes was appointed governor, and William Hasleden first master. At that time, there were only seven students, and the rules of the establishment required that they should go to bed at nine o’clock in the evening. It was much improved and enlarged in the reign of George III., at whose desire the name of Royal Naval College was substituted for its original name. The object of the college formerly was to educate *youths* for the naval service; but this function has lately ceased, or at least been suspended. It was re-opened upon the basis of its new constitution on the 24th December, 1838; and now, instead of training youths as naval cadets, officers bearing the rank of mates are there educated and examined as candidates for the rank of lieutenant.

Besides these young officers in their elementary career as naval men, the establishment includes 24 officers on half-pay, for the prosecution of their studies to higher proficiency than their early education led to; viz., 6 captains, 6 commanders, and 12 lieutenants; and to these have been added lately 3 masters.

Cadets for the artillery companies also are educated at the college. The subjects of study are mathematics, steam, gunnery, and fortification.

Connected with the establishment is the “Excellent,” naval gunnery ship.

The governor is the First Lord of the Admiralty for the time being; and the staff of the college includes a captain-superintendent, who is the captain of the gunnery ship; a professor of mathematics, who is also chaplain of the gunnery ship; a mathematical master; an instructor in fortification and mechanical drawing; and an assistant in the

observatory. There are also a clerk and a matron. All these have apartments in the college. Candidates for naval and marine cadetships are now examined there, before admission into the service.

Central School  
of Mathematics.

The Central School of Mathematics and Naval Construction is a neat building, 176 feet in length, 45 feet in breadth, and 36 feet in height. This building was constructed for the late School of Naval Architecture, after a design by Edward Hall, Esq., begun in 1815, and completed in 1817. That institution and the Royal Naval College were, by virtue of an Order in Council of 30th January, 1816, united into one establishment, under one governor and one professor. The School of Naval Architecture was abolished in 1832.

In 1848, the Board of Admiralty formed a new plan for the superior education of a select number of shipwright apprentices, with a view to their scientific qualification for officers in the dockyards. The same building is used for that purpose. A small number of pupils only are sent to it, after the close of the fourth year of their apprenticeship as artificers in the dockyards, to finish their term of seven years in the study of mathematics, under the principal of that school, Dr. Woolley, and continuing the study of ship-building under the direction of the master shipwright of the dockyard.

This school is quite distinct from the Royal Naval College, and is materially different from the late School of Naval Architecture.

Chemical  
Laboratory.

Immediately in the rear of the above building is a laboratory, which was erected, in 1848, for the use of Mr. W. J. Hay, the chemical assistant of the dockyard, an office of some importance, that was created in 1847, and to which are referred for investigation and report such subjects as require a knowledge of chemistry to be brought to bear upon them.

This department is connected with the educational establishments of the dockyard, for the students of the central school are taught the elements of chemical science and the methods of manipulation, a provision for diffusing a knowledge of this subject over the various dockyards of the kingdom, and one calculated to bring that increasingly important science into more general usefulness in these national establishments.

Wood mills.

One of the most interesting departments of labour in the dockyard is the *wood mills*, in which the block machinery is situated. In 1801, this was erected, under the direction of General Bentham. The late Sir Isambert Brunel had constructed a working model of certain machines for cutting the shells and sheaves of blocks, which was shown to the Lords of the Admiralty, who referred it to General Bentham. The plan was approved and recommended; and the machinery, already constructed in London, was transferred to Portsmouth in 1802, and was put in operation in 1804; but many more parts were deemed by Mr. Brunel necessary to the completion of the machinery, which were not finished till 1808. This machinery at once superseded the inconveniences to which the navy was subject through the imperfections of blocks made by hand; for both the shells and the sheaves were cut with mathematical exactness; and amongst the other improvements which resulted from Mr. Brunel's labours, was the greater *strength* of the blocks.

The machinery is so complete, and yet so simple, that it does not



require skilled artificers to use it, labourers exercising ordinary care being competent to perform the work at the machinery. Four men are employed in making the shells, and these can make as many with the machinery as fifty men could make by hand. The saving of labour in making the sheaves is not quite so great in relation to hand-work, for it is estimated that two men at the machinery can perform the work of only twenty men working by hand. The system is so complete, that experience has not suggested any way in which its efficiency could be increased. It includes the following machinery:—

Two 30-horse power engines, which consume daily 2½ tons of coals	1 Round sheave saw
1 Boring machine	1 Close ditto
1 Mortising ditto	1 Bench ditto
1 Corner ditto	1 Coaking machine
1 Scoring ditto	1 Drilling ditto
1 Shaping ditto	1 Boring ditto
2 Dead-eye ditto	2 Rivetting hammers
1 Shot-rack ditto	6 Facing machines
1 Universal boring ditto	1 Stamping ditto
2 Bench-saws for cutting blocks of wood	3 Broaching ditto
1 Large circular saw	1 Drilling lathe
1 Cross-cut ditto	5 Turning machines
4 Circular frame ditto	3 Polishing or testing machines
	8 Turning lathes

The following table will show the number and description of blocks made with this machinery in the year 1849 :—

Machines.	Size of Blocks.	Number of Single Block Shells.	Number of Double Block Shells.	Number of Treble Block Shells.	Number of Clewline Block Shells.	Number of Long-tackle Block Shells.	Number of Sister Block Shells.	Number of Sheaves for the Blocks.	Number of Pins for the Blocks.	Number of Dead-eyes.	Number of Block Shells to each size.
Small Machine.	Inches										
	4	798	..	..	..	..	..	798	798	..	798
	5	4,460	585	..	..	..	..	5,630	5,045	101	5,045
	6	3,300	988	..	139	..	..	5,415	4,427	507	4,427
	6½	694	95	..	..	..	..	884	789	..	789
Middle Machine.	7	5,039	2,088	..	259	..	..	9,474	7,386	963	7,386
	8	5,426	2,828	..	239	..	10	11,341	8,513	715	8,503
	9	1,734	478	..	..	..	..	2,690	2,212	335	2,212
	10	2,178	1,386	10	79	60	..	5,179	3,773	1,088	3,713
Large Machine.	11	1,301	395	6	13	32	..	2,186	1,779	626	1,747
	12	878	494	56	..	69	..	2,172	1,566	356	1,497
	13	473	186	63	..	27	1	1,090	778	20	750
	14	482	175	52	..	5	14	1,026	747	154	728
	15	65	95	26	..	17	18	403	256	292	221
	16	140	85	15	..	..	12	379	264	315	252
		26,968	9,878	228	729	210	55	48,667	38,333	5,472	38,068

## Wood mills.

Hitherto all blocks less than 4 inches in length, and above 16 inches, have been made by hand; these are, however, very few in comparison with the intermediate sizes, so that it was not originally deemed advisable to incur the expense of smaller and larger machinery for such. But an order has lately been given for a turning-lathe for making blocks more than 16 inches in length.

All the shells of blocks made by the machinery are finished or smoothed by hand labour.

There are 19 men employed in the blockmaking department, viz., 12 in making the shells (these make those shells also which are manufactured entirely by hand), 5 in making sheaves, 2 in making the pins; and 9 boys are employed in carrying the blocks to the different machines, &c.

The preceding table shows the amount of work performed by the machinery with this number of hands, working ten hours a-day; but if the machines were worked with as many men as could be employed at them, and a proportionate number of finishers and boys, working the same period of time throughout the year, the produce would be about five times as great of the sizes and descriptions shown in the table.

From the time that the dockyard establishment began to present the means of greater service to the navy, after the middle of the 17th century, attention was increasingly directed towards an extension of those means, and storehouses and docks were constructed with that object.

## Docks.

The following table contains the dimensions of the docks, with the dates of their construction:—

No. of the Dock.	Length of Dock at Bottom from Mitre Post.	Length at Top from Mitre Post to the Head.	Width of Dock at Bottom.	Width of Dock at Top.	Depth at Midships.	Date of Opening the Dock.
	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	
1	228 3	254 1	33 4	92 9	26 9 $\frac{3}{4}$	Before 1725
2	221 7	253 4	35 2	89 2	31 8 $\frac{1}{4}$	1802 or 1803
3	228 2 $\frac{1}{2}$	264 1	27 7	90 10	32 8	1803
4	206 1 $\frac{1}{2}$	229 9	34 3	84 8	26 2	1772
5	204 11 $\frac{3}{4}$	227 7	34 2	85 6 $\frac{1}{2}$	25 0 $\frac{3}{4}$	Before 1725
6	190 2 $\frac{1}{2}$	223 5	31 11	83 3	23 7 $\frac{3}{4}$	„
7	263 0	293 0	35 0	100 0	32 0	1849
8	250 9	295 3	36 0	88 0	26 1	1850

The water below the level of the ebb tide is pumped out of the docks by means of chain pumps, a description of pumps first used for this purpose in 1696; these are now worked by steam-power.

About the close of the last century, at the advice of General Bentham, a large basin was formed, partly upon the site of an old basin that was not sufficiently capacious for the duties of the establishment.



This basin was completed in 1801, and on the 12th June in that year it was opened, and the "Britannia" taken in. It occupies an area of 2 acres and 78 perches.

The docks numbered 2, 3, 4, and 5, in the preceding table, open into the basin; that which is numbered 2 has no covering, being used to admit ships with their masts in. Nos. 3, 4, and 5, have housings to shelter the ships taken into them for repair.

There are five slips in the yard for building new ships, all of which are housed over, to protect the ships from injurious exposure to the weather, and to render the process of seasoning more effectual whilst they are in frame. The three slips of the most recent construction are covered with corrugated galvanized iron roofs; the other slips with wooden roofs. Building-slips.

Connected with the steam factory in this yard, is another and a more spacious basin, for the admission of steam ships and vessels requiring anything to be done to their machinery. It is 900 feet long and 400 feet broad, and includes an area of 6 acres 2 roods and 26 perches. The foundation stone of this basin was laid by Rear-Admiral Hyde Parker, admiral superintendent of the dockyard, on the 13th January, 1845, at the south wall, with the following inscription, the work having been commenced on the 10th June, 1843:— Steam basin.

"This Stone is laid  
This 13th day of January, 1845,  
By Hyde Parker,  
Rear-Admiral Superintendent of Her Majesty's  
Dockyard:  
Commander-in-Chief Admiral Sir C. Rowley;  
William Purdo, Master-attendant;  
John Fincham, Esquire, Master-shipwright;  
W. Pennell, Storekeeper;  
Robert Taplin, Engineer and Mechanist;  
James Henderson, Surgeon;  
Director-General of Architectural and Engineering Works,  
H. B. Brandreth, Capt., R.E.  
Local Director, R. S. Beatson, Lieut., R.E.  
Henry Wood } Clerks of Works.  
John Stansfield }  
Peter Rolt, Esquire, Contractor.  
W. E. Smith, Agent to ditto."

The basin was opened for general use on the 25th May, 1848, by her most gracious Majesty in person. The depth of water in it at spring tides is 26 feet 6 inches. There is one dock, No. 7, opening into the west side of this basin, which is used for steam vessels; and on the east side, two other docks are in the course of construction.

On the western side of the basin stands a building 687 feet long and 47 feet in breadth; it was begun in 1847, and finished in 1849, and was intended for a storehouse connected with the engineering department; but in the unfinished state of that department, it has been used as a steam factory. Steam factory.

Most of the buildings of the dockyard are formed of brick, and are generally of good substantial construction.

The following table shows the principal dimensions of the store-houses and other public buildings in the dockyard:—

Dockyard  
buildings.

Description of Buildings.	Length.		Breadth.		Height.		Date of Erection
	Ft.	In.	Ft.	In.	Ft.	In.	
Present use storehouse .....	192	2	51	0	44	2	1697
Clock storehouse.....	209	11	50	11	44	2	....
South storehouse.....	193	3	51	1	44	4	....
West sea storehouse .....	220	0	40	0	....	....	....
East sea storehouse.....	151	6	43	1	....	....	....
Return store .....	51	3	53	7	18	6	....
East masthouses.....	302	9	138	4	14	4	....
West masthouses.....	122	3	106	7	....	....	....
New mast shed .....	127	11½	23	11	11	9	....
New mast store .....	140	0	91	0	41	0	1844
Mast pond .....	318	9	190	0	....	....	....
Shed over mast pond .....	190	11¾	66	9	17	9½	....
West hemp house .....	208	0	40	0	....	....	1771
East hemp house.....	175	0	40	0	....	....	1781
Hatchelling house .....	144	3	37	4	25	6	....
Working boathouse.....	140	5	90	8	14	6	....
New boat store, built of brick, stone, and iron.....	171	0	127	6	50	4	1848
Ropery.....	1,080	0	53	0	....	....	....
Sail loft .....	192	7	51	0	42	6	....
Riggers' shed attached thereto .....	187	5	34	6	7	6	....
Rigging house.....	220	7	51	0	42	6	....
Smithery .....	180	4	138	9	22	1	....
New smithery in course of erection, with four chimnies 100 feet high .....	209	0	209	0	38	0	....
Tarring house .....	140	8	47	0½	27	6	....
Engine and boiler house.....	147	1	139	2	29	8	....
Copper store .....	46	9	17	6	19	9	....
Public offices for the officers .....	140	0½	36	0	....	....	1788
Building at King's Stairs .....	44	11	42	2	26	0	....
Pay office and main guard .....	88	7	64	4	31	6	1796
Semaphore .....	....	....	....	....	....	....	1813
St. Ann's chapel.....	76	2	50	1½	43	9	1786
The Port Admiral's house .....	215	0	70	0	....	....	1785

Ropery.

The duties of the ropery are performed partly by machinery and partly by hand, and they occupy 219 persons. The strands of rope are made by machinery; the ropes themselves are made by *hand*. The largest ropes made there are 25-inch cables, and 136 fathoms is the greatest length that can be made there. Eighty men are employed in spinning twine and the lighter descriptions of work carried on in the building.

Smithery.

Smiths were first employed as a part of this establishment in 1726, and the officers considered that thirty tons of iron and thirty tons of coals would then be enough for the year. Coals were then for the first time advertised to be contracted for, for the use of the yard. They had before been procured in the small quantities of one or two bushels for the use of the locksmith. In 1741, the number of smiths was increased. There were then 2 firemen at 2*s.* 6*d.* a-day, 3 at 2*s.* 2*d.*, and 9 at 1*s.* 10*d.*; 45 hammermen; 2 servants to the master smith, and 1 to the foreman. At the beginning of the present century, there were 116 smiths employed in this yard. The number was gradually increased in the course of the war, until, in 1814, it had risen to 179.



The establishment was then reduced gradually, and in 1817 there were only 138; but in 1819, the number was raised to 163, and continued so till 1840. The number in the year 1849-50 was 180.

In the year 1810, the smiths worked 15 hours a-day, and used in the course of the year 745 tons of iron; in 1813, they worked 13 hours a-day, and used 842 tons; in 1822, they worked 10 hours a-day, and only 5 days in a week, when they expended only 434 tons of iron; in 1840, they worked 10 hours a-day, and used 548 tons of iron; in 1849, the number being increased to 180, they still worked 10 hours a-day, when they used 866 tons.

It has been stated that at the time of the Revolution, the apprehension for the safety of the dockyard was such as to lead to the arming of the men belonging to the establishment. This was intended only for the immediate occasion of mounting guard during the panic, consequent on the great transition of the time. A more systematic arrangement was made in 1715. On the 20th September, the commissioner proposed that the artificers of the dockyard should be formed into a regiment. Towards the close of the following month, the proposal was ordered to be carried into effect; the corps to consist of 12 companies, of 50 men each. Each company included a sergeant, a corporal, and a drummer; and 2 extra lieutenants of the line were allowed to drill them. This corps of volunteers was called the "Commissioner's Regiment," as under such designation they were allowed one night's pay for having been out on Sunday, the 20th October, 1723, to solemnize the king's coronation; and on the 21st October, 1730, it was stated that the officers and workmen of the dockyard should not do garrison duty unless specially ordered to do so.

Military  
organisation.

Commis-  
sioner's regi-  
ment.

A similar scheme was revived in 1803. On the 24th August, volunteer companies were directed to be formed from the artificers of the dockyard, each company to consist of 1 captain, 1 lieutenant, 1 ensign, 3 sergeants (including 1 drill sergeant), 3 corporals, 2 drummers, and as nearly as possible 82 privates. There were 5 companies formed. The officers were 1 colonel, 1 lieutenant-colonel commanding, 1 major, 5 captains, 5 lieutenants, 5 ensigns; and there were 461 rank and file.

Dockyard  
volunteers.

The artificers of the dockyard were again organized into a military corps in April, 1847. They were formed into 8 infantry companies, in 2 battalions, 6 artillery companies, 4 boat brigade, and 1 sapper company. The officers were 1 colonel commandant, 1 lieutenant-colonel, 4 majors, 19 captains, 34 lieutenants, and 1 adjutant. The men were drilled by sergeants allowed from the marine and artillery companies. The dockyard battalions still continue to be drilled during the summer months, and are kept in readiness for any such service as that contemplated in the formation of the corps.

Dockyard  
brigade.

Soon after the middle of the 17th century, the establishment increased rapidly. It is not, however, easy to trace the steps of improvement as they were taken; but the following table shows the number and description of workmen employed about the year 1696, with the wages paid to them for one quarter, and the allowance for lodging to those who were entitled thereto:—

Number of  
workmen in  
1696.

Description of Workmen.	Number of Men.	Wages Paid.			Allowance for Lodging.			Total.		
		£	s.	d.	£	s.	d.	£	s.	d.
Servants to Master Shipwright ....	5	36	10	8	....			36	10	8
„ 1st Assistant .....	3	25	2	2	....			25	2	2
„ 2nd Assistant .....	3	23	19	11	....			23	19	11
„ Master Caulker .....	3	27	2	1	....			27	2	1
„ Master Boatbuilder ....	2	13	12	7	0	5	2	13	17	9
„ Master Mastmaker ....	2	15	15	2	0	5	3	16	0	5
Foremen .....	3	39	14	0	0	8	0	40	2	0
Servants to ditto .....	5	31	16	3	0	12	8	32	8	11
Quartermen .....	17	173	15	0	2	3	11	175	18	11
Servants to ditto .....	17	113	0	6	2	4	8	115	5	2
Servants to widows of deceased workmen .....	10	69	9	8	1	5	11	70	15	7
Shipwrights .....	216	1,828	15	1	30	9	9	1,859	4	10
Servants to ditto .....	42	251	19	0	5	2	6	257	1	6
Servants to Ships' Carpenters .....	17	115	5	9	2	4	2	117	9	11
		2,765	17	10	45	2	0	2,810	19	10
<i>Caulkers.</i>										
Foreman .....	1	14	2	10	0	2	8	14	5	6
Servant to ditto .....	1	4	11	0	0	2	8	4	13	8
Quartermen .....	2	24	1	10	0	5	4	24	7	2
Caulkers .....	41	333	19	11	4	6	2	338	6	1
Servants to ditto .....	9	62	18	2	1	4	0	64	2	2
		439	13	9	6	0	10	445	14	7
Joiners .....	39	300	5	9	4	18	5	305	4	2
Servants to ditto .....	6	24	3	9	0	13	8	24	17	5
		324	9	6	5	12	1	330	1	7
House Carpenters .....	53	417	5	9	6	9	8	423	15	5
Servants to ditto .....	3	25	19	9	0	8	0	26	7	9
		443	5	6	6	17	8	450	3	2
Plumbers .....	2	6	13	9	....			6	13	9
Bricklayers .....	21	109	7	8	2	3	5	111	11	1
Servants to ditto .....	3	19	6	9	0	7	9	19	14	6
		128	14	5	2	11	2	131	5	7
Masons .....	5	28	2	1	....			28	2	1
Servant to ditto .....	1	4	11	0	....			4	11	0
		32	13	1	....			32	13	1
Sailmakers .....	8	68	16	3	0	17	9	69	14	0
Servants to ditto .....	2	14	11	6	0	5	4	14	16	10
		83	7	9	1	3	1	84	10	10



Description of Workmen.	Number of Men.	Wages Paid.	Allowance for Lodging.	Total.	Number of workmen in 1696.
		£ s. d.	£ s. d.	£ s. d.	
Riggers .....	42	285 10 1	....	285 10 1	
Scavermen .....	17	121 14 4	....	121 14 4	
Labourers .....	250	1,009 3 4	....	1,009 3 4	
Quarter boys .....	12	27 3 2	1 5 3	28 8 5	
Oakum boys .....	25	47 13 5	3 1 0	50 14 5	
Pitch-heaters .....	2	11 9 1	....	11 9 1	
Blockmakers .....	3	29 7 8	0 7 8	29 15 4	
Locksmith .....	1	9 16 7	....	9 16 7	
Servant to ditto .....	1	3 19 0	....	3 19 0	
		13 15 7	....	13 15 7	
Sawyers .....	43	379 12 8	....	379 12 8	
Oar maker .....	1	9 7 0	....	9 7 0	

There were no smiths at this time ; and it has been stated that that class of artificers formed no part of the establishment till the year 1726.

Until April, 1696, no order prevailed as to the number of either foremen or quartermen that should be employed in this dockyard. Their wages had been recently increased ; and the next thing affecting them was to determine the numbers that should be employed. On the 1st of the above month, the Navy Board therefore directed that there should be “ 4 foremen, namely, 2 for the old works, 1 for the works afloat, and 1 for the caulkers ; and that 1 quartermen for a leading man should be allowed to every 20 shipwrights and caulkers.”

The number of artificers increased considerably with the importance of the dockyard, in the early part of the 18th century, and in 1734, the number of shipwrights was 600 ; in 1778, there were 846 shipwrights.

The following table will show how the number of this and some other classes of artizans have varied at different intervals since the breaking out of the War of the Revolution :—

Date.	Number of			
	Shipwrights.	Caulkers.	Joiners.	Smiths.
1792.....	787	114	55	68
1797.....	1,070	160	90	106
1810.....	1,230	134	123	149
1820.....	1,070	102	142	160
1830.....	830*	90	83	153
1840.....	780*	69	108	162

\* Including Inspectors.

Number of  
workmen in  
1850.

In the year 1850, the establishment included the following artificers and other workmen, of the respective ages marked in the columns:—

Description of Workmen.	Estab- lished Comple- ment.	Ages.					Total.
		15 to 25 Years.	25 to 35 Years.	35 to 45 Years.	45 to 55 Years.	55 to 65 Years.	
Shipwrights .....	810	211	222	150	93	134	810
Blockmakers .....	4	....	....	....	3	1	4
Oar maker .....	1	....	....	....	....	....	1
Caulkers .....	80	33	23	8	11	14	89
Joiners.....	134	5	56	46	14	16	137
Cooper.....	1	....	1	....	....	....	1
Bricklayers .....	2	....	....	2	....	....	2
Sawyers .....	100	2	64	19	6	9	100
Painters .....	35	....	14	14	7	....	35
Labourers .....	200	35	122	28	4	11	200
„ .....	200	36	93	52	19	....	200
Millwrights and workmen } employed with them .....	61	9	16	15	10	10	60
Smiths.....	180	28	78	47	24	2	179
Block mills .....	60	15	15	12	6	12	60
Plumbers, braziers, and tin- } men .....	13	1	5	6	1	3	16
Apprentices at mathematical } school .....	16	16	....	....	....	....	16
Total in Master Shipwright's } department .....	1,897						
Single stationed men .....	17	1	2	3	11	....	17
Riggers .....	113	....	42	46	8	17	113
Seamen for yard service .....	125	5	40	23	1	....	69
Sailmakers .....	58	14	13	8	6	13	54
Spinners .....	104	23	45	30	12	10	120
Storehouse men .....	18	....	4	5	5	5	19
Messengers .....	7	....	1	....	1	5	7
Colour women.....	7	....	2	....	5	....	7
Police .....	91	2	45	29	11	4	91
Workmen at steam factory....	462	95	233	121	12	1	462
Staff of dockyard battalion, } including Adjutant .....	15	....	....	7	8	....	15
<i>Extra Workmen at Ropery.</i>							
Ropemakers.....	38	55	25	8	6	2	96
Labourers .....	38						
House boys .....	20						
<i>Under Director of Works.</i>							
Foreman .....	1	1	3	6	1	....	11
Overseers.....	2						
Draughtsmen .....	1						
Assistant ditto.....	1						
Messenger .....	1						
Labourer .....	1						
Temporary clerk and writer....	1						
Assistant at telegraph.....	1	1	....	....	....	....	1
Seamen for yard service afloat	89	9	33	27	12	8	89



It has been already remarked that the duties of this dockyard consist to a greater extent of repairing and fitting out ships than in building them. The preponderance of duties in this way is, of course, greater in a time of war than in a time of peace; and there may be, as there has been, an exception to this, and the duties of building exceed those of repairing, &c.

Still, in time of war, the pressure of duties connected immediately with ships in commission has been so great as to oblige the suspension of new work altogether; thus it was during the two years 1797 and 1798. The different descriptions of employment of the shipwrights will be presented with sufficient clearness in the following table, which embraces eleven consecutive years during war, and five years at intervals of about ten years apart, with the exception of the first of these years, during peace.

This table will show what class of duties gives the establishment its importance in time of war.

*A Table of the respective Employments of Shipwrights, showing the Number of Days' Work for one man, and also the Amount of Absence from Duty of the Men, on account of Sickness and Hurts, with Leave of Absence, and without Leave, during the Years therein expressed.*

Date.	Build- ing.	Repair- ing.	Number of Days em- ployed in Repairing, for one Day employed in Building.	In the Mast House.	In the Boat House.	Capstan House, Top House, and Single Stations.	Absent through Sick- ness. &c.	Absent with- out Leave.	Absent with- out Leave.	Total Working Days for the Year.
1791	10,764	151,274	14·00	27,954	31,698	13,614	13,596	594	2,628	252,122
1792	15,660	149,928	9·50	24,468	22,890	17,334	13,918	468	2,384	247,350
1793	6,418	154,994	24·00	40,716	24,228	20,046	2,862	246	2,508	252,018
1794	5,694	156,360	27·00	43,782	29,160	20,340	3,648	366	2,340	261,690
1795	2,694	155,226	57·00	54,564	32,100	20,680	6,174	246	3,288	275,172
1796	1,524	152,282	99·90	62,076	41,868	25,860	4,722	228	3,546	292,206
1797	..	182,724	..	44,460	49,650	30,408	5,260	600	5,076	318,078
1798	..	168,618	..	63,006	41,424	26,586	5,016	288	4,974	309,912
1799	3,204	178,740	55·78	60,630	43,860	25,302	3,930	636	4,950	321,252
1800	3,642	171,426	47·00	63,210	44,082	24,606	3,486	432	4,278	315,162
1801	3,804	181,938	21·90	53,568	46,134	24,558	3,432	384	5,214	322,914
1810	13,920	246,390	17·70	37,896	22,156	41,564	4,866	1,164	7,468	374,424
1820	48,456	220,972	4·50	27,498	23,796	9,240	3,186	882	2,408	336,438
1830	172,974	37,266	0·21	19,830	12,090	10,188	4,932	852	822	258,954
1840	33,903	143,244	4·20	23,232	12,948	16,239	5,820	1,002	828	237,216
1849	54,241	156,868	2·89	19,551	12,581	16,001	8,094	1,356	644	269,336
Total Number of Days for One Man in 16 Years....										4,644,244

The preceding table exhibits the amount of time lost by the workmen without leave, in relation to their whole working time; and as this is, to a great extent, a fair index to the discipline which prevails, the following statement has been deduced from the table:—

Time lost by  
workmen.

The workmen lost—

In 1791 one day in 95 days.				In 1799 one day in 65 days.			
1792	..	103	..	1800	..	73	..
1793	..	100	..	1801	..	62	..
1794	..	111	..	1810	..	50	..
1795	..	83	..	1820	..	139	..
1796	..	82	..	1830	..	315	..
1797	..	62	..	1840	..	286	..
1798	..	62	..	1849	..	418	..

Time lost by  
workmen.

It appears, therefore, that during the first year after the war of which notice is taken in this account, the time absented from labour without leave was diminished to nearly one-third of what it had been in 1810. In 1830, the time lost from work without leave was still further diminished; but at that time the artificers were employed only five days in the week. In 1840, when they worked six days in the week, the lost time was inconsiderably increased; but in 1849, it was far less than in any preceding year included in this table. Thus it appears that the attendance of the men at their duties has been brought within these few years to a far higher degree of punctuality than it has ever risen to before; and this is clearly associated with the measures which have been in operation tending to the moral improvement of the establishment. Of this improvement, too, there are other evidences, as complaints of conduct in any way constituting a breach of order or discipline are now of rare occurrence.

Although the labour of repairing and fitting out ships generally exceeds that of building them, yet in a time of peace there is no inconsiderable amount of building performed in this yard. The proportions of new and old work will perhaps be a little further exemplified by the following table, showing what ships have been built in this yard during the present century, and a statement of the number of ships docked:—

Ships built  
during the  
present cen-  
tury.

Name.	Guns.	Tons.	Date.	Name.	Guns.	Tons.	Date.
Neptune.....	120	2,705	1832	<i>Corvettes, Sloops, &amp;c.</i>			
Queen .....	110	3,104	1839				
Princess Charlotte	104	2,417	1825	Volage .....	26	516	1825
Boyne (afterwards Excellent) .....	104	2,155	1810	Brazen .....	26	422	1808
Dreadnought .....				Tweed .....	26	500	1823
Bellerophon .....	78	2,056	1818	Challenger .....	26	603	1826
Indus .....	78	2,098	1839	Sapphire .....	26	605	1827
Bulwark.....	76	1,940	1807	Martin .....	20	400	1821
Carnatic.....	74	1,819	1823	Hermes .....	20	512	1811
Pitt .....	74	1,751	1809	Champion.....	18	455	1824
Vindictive .....	74	1,758	1813	Columbine .....	18	492	1826
				Electra .....	18	462	1837
				Favourite .....	18	432	1829
<i>Frigates.</i>				Grasshopper.....	18	368	1813
President .....	50	1,537	1829	Hazard .....	18	431	1837
Leander .....	50	1,987	1848	Orestes.....	18	459	1824
Grampus .....	50	1,114	1802	Primrose .....	18	383	1810
Fox .....	46	1,063	1829	Rose .....	18	398	1821
Minerva.....	46	1,082	1820	Wolf .....	18	454	1826
Thalia .....	46	1,082	1830	Childers .....	18	384	1812
Lacedemonian .....	46	1,073	1812	Albatross .....	16	484	1842
Pallas.....	42	951	1816	Bittern .....	16	484	1840
Pyramus .....	42	920	1810	Frolic .....	16	509	1842
Laurel .....	42	1,088	1813	Grecian.....	16	484	1838
Inconstant.....	36	1,422	1836	Podargus ...	14	252	1808
Alexandria.....	32	662	1806	Zephyr.....	14	253	1809
				Racer .....	12	431	1833
<i>Corvettes, Sloops, &amp;c.</i>				Daring .....	12	426	1844
Eurydice .....	26	921	1843	Osprey .....	12	425	1844
Actæon .....	26	620	1831	Icarus .....	10	234	1814
				Jasper .....	10	235	1820



Name.	Guns.	Tons.	Date.	Name.	Guns.	Tons.	Date.	Ships built during the present century.
Lynx .....	10	232	1833	Cygnets .....	6	235	1819	
Myrtle .....	10	230	1825	Prince Regent .....	Yacht	282	1820	
Rapid .....	10	319	1840	Arrow .....	Cutter	157	1823	
Plover .....	10	237	1821	Sylvia .....	Cutter	65	1827	
Pantaloon .....	10	323	1831	Seaflower .....	Cutter	116	1830	
Ferret .....	8	358	1840	Fanny .....	Cutter	136	1831	
Sealark .....	8	319	1843					

To the preceding list, which includes the names of sailing-ships and vessels only, must be added the names of steam-ships and vessels :—

Name.	Guns.	Horse-Power.	Tons.	Date.
Arrogant ( <i>screw</i> ) .....	46	360	1,862	1848
Dauntless ( <i>screw</i> ) .....	33	520	1,496	1847
Centaur .....	6	540	1,270	1845
Firebrand.....	6	400	1,190	1842
Scourge .....	6	420	1,124	1844
Driver .....	6	280	1,056	1840
Thunderbolt .....	6	300	1,055	1842
Stromboli .....	6	280	967	1839
Furious .....	16	400	1,286	1850
Hermes .....	6	220	830	1835
Argus .....	6	300	975	1849
Volcano .....	3	140	720	1836
Rifleman ( <i>screw</i> ).....	8	100	483	1846
Plumper ( <i>screw</i> ).....	12	60	489	1848

The number of ships and vessels taken into dock for repairs during the six years from 1805 to 1810, inclusive, were 69, 67, 70, 77, 61, and 82, respectively, which gives a mean of 71 ships and vessels docked for repair in each year. More than two-thirds of these were in commission, having been generally sent home to undergo such repairs as were absolutely necessary. The others were taken from a state of ordinary, repaired, and put into commission.

In the year 1851, there were about fifty-eight ships and vessels taken into dock, nearly two-thirds of which, whether sailing-vessels or steamers, were sloops and smaller vessels; and as this number is relatively high for a time of peace, it is proper to state that the greater employment of steamers within these few years has given occasion to a great increase of docking, without a proportionate increase of repairs.

Since the native forests of this country have failed of yielding a supply of timber adequate to the wants of the navy, oak and other descriptions of timber have been procured elsewhere, first on the continent of Europe and in North America, and more recently also in Africa, the East and West Indies, and South America, and in the colonial parts of the empire in the more southern regions. The following table will show the quantities and descriptions of timber that were used in this yard in the years 1820, 1830, 1840, and 1849 :—

Description of Timber.	1820.			1830.			1840.			1849.		
	Timber.	Thick Stuff.	Plank.	Timber	Thick Stuff.	Plank.	Timber	Thick Stuff.	Plank.	Timber	Thick Stuff.	Plank.
	Loads.	Loads	Loads.	Loads.	Loads	Loads.	Loads.	Loads	Loads.	Loads.	Loads	Loads
Oak.—English .....	6,760	459	673	2,783	168	294	1,359	264	256	1,609	602	213
„ Dantzic .....	..	86	484	..	36	517	..	108	220	..	171	185
„ Foreign, not } Dantzic..... }	1,771	..	..	..	73	308	..	16	188	..	..	..
„ Adriatic .....	..	91	173	961	..	..	464	..	..	1,295	91	25
„ Lorraine and } French..... }	..	..	..	24	..	..	31	..	..	..	..	..
„ African .....	..	..	2	1,065	..	..	1,080	..	..	737	8	57
Teak and other Fo- } reign, not oak..... }	716	29	22	..	134	..	..	86	..	..	..	..
Teak .....	..	196	35	135	..	..	12	..	..	275	71	47
Mahogany .....	..	..	..	..	..	..	..	..	..	394	37	72
Sabicu .....	..	..	..	..	..	..	..	..	..	153	..	7
Cedar .....	..	..	..	..	..	..	73	..	..	56	..	2
Fir.—Dantzic.....	111	..	..	612	..	..	310	..	..	264	..	..
„ Red Pine .....	2,318	..	..	993	..	..	318	..	..	447	..	..
„ Yellow Pine....	298	..	..	138	..	..	78	..	..	336	..	..
„ Pitch Pine.....	12	..	..	..	..	..	..	..	..	183	..	..
„ Riga .....	718	..	..	965	..	..	292	..	..	44	..	..
„ of sorts .....	..	41	273	..	83	612	..	121	450	..	66	608
Larch.—Polish .....	..	..	..	..	..	..	330	..	..	51	..	..
„ Italian .....	..	..	..	..	..	..	..	..	..	10	..	..
Cowdie (from New } Zealand)..... }	..	..	..	..	..	..	2	..	..	..	..	..
Elm.—English .....	989	..	138	681	113	78	1,073	63	59	883	42	154
„ Canada Rock ..	..	..	..	..	..	..	143	11	59	120	6	96
Beech .....	71	..	22	76	..	4	89	..	27	52	..	..
Ash .....	28	..	..	19	..	..	3	..	..	21	..	..
Total in each year..	13,792	902	1,822	8,452	607	1,813	5,657	669	1,259	6,930	1,094	1,466
Mast Sticks of all de- } scriptions .....	No. 3,631			No. 2,873			No. 2,455			No. 3,013		
Deck Deals, 30 ft. lengths	5,879			3,980			2,943			2,452		
Ordinary Deals, 12 ft. } lengths .....	15,030			19,060			20,888			13,119		
Treenails of all de- } scriptions .....	201,520			161,805			66,451			89,385		
Ash Oar-Rafters .....	3,281			2,383			489			2,536		
Capstan Bars .....	454			204			283			295		



*Statement of the Number of Deaths amongst the Workmen and Police Constables of the Dockyard, and whether occasioned by Sickness or by Accidents, from the 1st July, 1838, to the 30th June, 1850.*

	Shipwrights.		Caulkers.		Metal Mills and Millwrights.		Smiths.		Joiners.		Sailmakers.		Ropemakers.		Sawyers.		Painters.		Seamen and Riggers.		Masons and Labourers.		Factory People.		Police Constables.		Total in each Year.	
	Sickness.	Hurts.	Sickness.	Hurts.	Sickness.	Hurts.	Sickness.	Hurts.	Sickness.	Hurts.	Sickness.	Hurts.	Sickness.	Hurts.	Sickness.	Hurts.	Sickness.	Hurts.	Sickness.	Hurts.	Sickness.	Hurts.	Sickness.	Hurts.	Sickness.	Hurts.	Sickness.	Hurts.
From July 1st to Dec. 31st, 1838	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	4	..	..	..	..	..	..	..	5	..
From Jan. 1st to Dec. 31st, 1839	8	..	..	..	1	..	5	..	1	..	1	..	..	1	2	1	..	..	2	..	..	1	..	..	..	..	21	2
From Jan. 1st to Dec. 31st, 1840	5	..	..	..	..	..	1	..	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	11	2	
From Jan. 1st to Dec. 31st, 1841	3	2	1	..	2	..	1	..	1	..	..	..	..	..	1	..	..	..	3	..	2	..	..	..	..	16	2	
From Jan. 1st to Dec. 31st, 1842	5	..	..	..	1	..	2	..	2	..	..	..	1	..	1	..	..	..	1	..	1	..	..	..	..	14	..	
From Jan. 1st to Dec. 31st, 1843	4	..	..	..	..	..	3	..	1	..	..	..	..	..	3	..	..	..	..	..	3	1	..	..	..	14	1	
From Jan. 1st to Dec. 31st, 1844	5	1	2	1	..	..	1	..	3	..	1	..	2	..	3	..	..	..	1	..	1	..	..	..	1	19	4	
From Jan. 1st to Dec. 31st, 1845	8	3	..	..	..	..	2	..	2	..	2	..	2	..	..	..	..	..	2	1	3	..	..	..	..	23	4	
From July 1st to Dec. 31st, 1846	9	..	..	..	..	..	1	..	..	..	..	..	2	1	..	1	2	..	..	..	2	1	..	..	..	16	3	
From Jan. 1st to Dec. 31st, 1847	10	..	1	..	1	..	..	..	1	1	..	..	3	..	1	..	2	..	1	..	4	1	..	..	..	24	2	
From Jan. 1st to Dec. 31st, 1848	7	..	..	..	..	..	1	..	2	..	1	..	6	..	1	..	1	..	1	..	9	..	3	..	..	32	..	
From Jan. 1st to Dec. 31st, 1849	10	1	..	..	..	..	1	..	..	..	..	..	3	..	1	..	..	..	1	1	10	..	1	..	1	29	2	
From Jan. 1st, to June 30th, 1850	5	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	1	
Total .....	79	7	4	1	5	1	18	..	15	1	6	..	22	2	13	2	5	..	16	2	37	3	4	..	3	2	230	23

Dockyard  
officers.

The dockyard includes the following officers:—A superintendent, who is a rear-admiral, and who holds his appointment for a term of five years; a master attendant and an assistant master attendant, both of whom are masters in the navy, and who hold their appointments for a term of five years. These officers are charged with the care of all the ships afloat in the harbour, as to the efficiency of their moorings, and with the stowage and rigging of all ships fitted out for sea. A master shipwright and four assistants, two of whom are shipwright officers, a third is an engineer, who is charged with the superintendence of the machinery in his department, the fourth is a chemist, to whom duties are referred as they present themselves, and whose office included also the preparation of a half-yearly report on copper sheathing in the navy, and the delivery of lectures on chemistry to the officers of the yard and to the students at the central school. There are six foremen of the yard, and twelve inspectors. There are a foreman of joiners and two inspectors. Connected with the smithery, are a master smith and two foremen of smiths. There are also a storekeeper and a store-receiver, who are charged with the receipts, custody, and issue of stores. There is a timber inspector, under whose supervision is placed directly all the timber in charge of the storekeeper of the yard.

There is a chief engineer and inspector of machinery connected with the steam factory, and an assistant engineer; and there is a captain of the Royal Engineers in charge of architectural works in the establishment.

The clergyman attached to the yard is a naval chaplain, and the surgeon and assistant surgeon are also naval officers, as likewise is the director of police.

## Clerks.

There are 29 clerks in the dockyard, viz., 3 first class, 9 second class, and 17 third class clerks.

Foremen, in-  
spectors, and  
leading men.

The supervision of labour in the master shipwright's department was altogether *direct* until the year 1847; that is, the work was performed under the general superintendence of foremen of the yard, and more directly under officers of inferior rank, called inspectors, who were charged with the management of a company; and this company was divided into gangs, at the head of each of which was a leading man. In April, 1847, the labour of this department was put under a new supervision, partly *direct* and partly *indirect*. The number of inspectors was diminished from 21 to 12; their salaries were increased at the same time, and a system of *partial measurements* of work was introduced, constituting the *indirect* supervision. For this purpose, four officers were appointed, under the denomination of measurers, whose salaries amount to about the sum saved by reducing the number of inspectors.

## Measurers.

These officers no sooner organised their departments and entered upon its duties, than it was ascertained, as had been already suspected, that there was a serious deficiency in the earnings of the workmen in relation to their wages. The average deficiency of earnings shown in a number of the earliest measurements was about 10 per cent. When the amount of wages was found not to have been earned, the workmen were paid only the exact amount of their earnings, and this mode of checking their exertions soon proved completely effective; the energies of the men were honestly given to their duties; and their earnings



since that time have generally exceeded their wages at the rate of about 3 per cent., which, added to the previous amount of deficiency, makes about 13 per cent. increase of work performed by the men through an improved supervision of their labour; and in this way a saving is effected in this dockyard of more than 11,000*l.* annually.

Connected with this class of duties, a new system of accounts has been framed, with the view no less effectually to check the expenditure of materials, than occasional and partial measurements have checked the performance of labour. This system is still in the course of development, and so far as any inference can yet be drawn of the results to which it may lead, in the event of its being applied with integrity and zeal, it is expected that it will be productive of economy in the use of materials as satisfactorily as have been the results of measuring work. When the accounts have been kept long enough to obtain the requisite data of the actual cost of work in all its branches and in sufficient detail, a general standard may be formed much surer than any yet set up for the expense of any descriptions of work. The detail of these accounts is so extensive, without being cumbrous, that the expense in materials and workmanship can be readily shown of work performed, not only in building a ship in the gross, but also of the work performed in different stages, from the commencement up to the completion of the ship. A general comparison of different ships can by this means be easily made; the cause of any discrepancy in their expense be traced, and extravagance, where any exists, can likewise be readily traced, and responsibility be made to attach to any officer who might in that respect be in fault.

System of accounts,

In particular sections of this department, the accounts have already been brought to a very mature state, as in the mast-house, joiners' shop, and smithery, where the works are on a scale that admits of their being performed in a short time. The long intervals between the beginning and finishing of ships, being sometimes a considerable number of years, will, however, require proportionably longer time to render the accounts relating to them so complete as to constitute the means of checking all expenditure of materials along with the performance of workmanship.

Population.

Population of Portsmouth and Portsea, according to the Census Returns, from 1801 to 1841 (both inclusive).

Year.	Portsmouth.			Portsea.			Grand Total.	Increase per Cent.
	Males.	Females.	Total.	Males.	Females.	Total.		
1801	....	....	7,839	11,696	13,691	25,387	33,226	} 22·1
1811	....	....	....	....	....	....	40,567	
1821	....	....	....	....	....	....	45,648	} 12·5
1831	....	....	8,083	18,555	23,751	42,306	50,389	
1841	5,015	4,339	9,354	19,567	24,111	43,678	53,032	} 10·4
								} 5·2

*Country in which the Persons enumerated in the Returns for 1841 were born.*

England.				Scotland.		Ireland.		British Colonies.		Foreigners and British Subjects born in Foreign Parts.		Not Specified.		Total.
In the County of Southampton.		In other Counties.												
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
17,412	22,847	5,302	4,877	983	198	559	378	6	5	274	93	46	52	53,032

*Table showing the Extent of each Parish; the Number of Houses Inhabited, Uninhabited, and Building, in June, 1841, and the Number of Inhabitants—distinguishing those under 20 Years of Age from those of 20 Years and upwards, and those Born in the County from those Born elsewhere.*

Parish.	Area in Acres.	Houses.			Inhabitants.		
		Inhabited.	Uninhabited.	Building.	Males.	Females.	Total.
Portsmouth	110	1,184	95	2	5,015	4,339	9,354
Portsea.....	4,980	8,702	676	41	19,567	24,111	43,678
Total....	5,090	9,886	771	43	24,582	28,450	53,032

Parish.	Ages.				Born in	
	Under 20 Years.		20 Years and upwards.		This County.	Elsewhere.
	Males.	Females.	Males.	Females.		
Portsmouth	1,821	1,628	3,194	2,711	5,549	3,805
Portsea.....	8,988	9,983	10,579	14,128	34,710	8,968
Total....	10,809	11,611	13,773	16,839	40,259	12,773

From the above table it appears that the number of persons not born in the county, but residing within the limits of the borough when the census was taken, bears to the number of those born in the county the proportion of 24 per cent., which can scarcely be called excessive, considering that Portsmouth is a sea-port, a naval arsenal, and a garrison. The returns furnish the following particulars:—



In the town of Portsmouth—		Hamlet of Copnor .....	141
Inhabitants .....	6,535	,,   Fratton .....	233
Military .....	1,755	,,   Milton.....	235
Other persons in the barracks } and military hospitals .....	410	Military .....	147
In Portsmouth workhouse ...	132	Other persons in the barracks } and fort .....	71
In Portsmouth gaol.....	61	On board the “Leviathan,” } convict hulk .....	629
Residing in the parish, without } the walls.....	461	In Portsea workhouse .....	511
In the town of Portsea—		In the Female Penitentiary .....	13
Inhabitants .....	13,999	In the Polish Refugee Hospital .....	89
Landport, Southsea, and the } district formerly known as } Portsea Guildable .....	27,610		
		Total.....	53,032

The excess of females over males amounts to 15·7 per cent. This proportion is undoubtedly affected by the peculiar position of Portsmouth as a sea-port, many of the females therein enumerated being the wives and daughters of individuals who were at sea when the census was taken. It is, however, remarkable, that in Gosport, situated on the western side of Portsmouth harbour, and with the parish of Alverstoke (of which it forms a part), included by the Registrar-General in the same district with the borough of Portsmouth, the returns of the census of 1841 indicated an excess of males over females in the proportion of 21·6 per cent., the numbers being respectively 4,864 and 3,998. The proportion of males under 20 years of age to the whole number of males in the borough of Portsmouth, is 43·9 per cent.

*Classification of the Inhabitants of the Borough of Portsmouth, according to Age, June, 1841.*

Age.	Males.	Females.	Total.
Under 5 years of age .....	3,068	3,000	6,068
5 years and under 10 .....	2,869	2,919	5,788
10    "       "   15 .....	2,619	2,782	5,401
15    "       "   20 .....	2,253	2,910	5,163
20    "       "   25 .....	2,467	3,258	5,725
25    "       "   30 .....	1,877	2,534	4,411
30    "       "   35 .....	1,724	2,098	3,822
35    "       "   40 .....	1,224	1,502	2,726
40    "       "   45 .....	1,239	1,653	2,892
45    "       "   50 .....	960	1,265	2,225
50    "       "   55 .....	1,307	1,391	2,698
55    "       "   60 .....	874	856	1,730
60    "       "   65 .....	854	864	1,718
65    "       "   70 .....	481	501	982
70    "       "   75 .....	399	466	865
75    "       "   80 .....	190	246	436
80    "       "   85 .....	110	128	238
85    "       "   90 .....	29	48	77
90    "       "   95 .....	13	18	31
95    "       "   100 .....	3	5	8
100 years and upwards .....	....	1	1
Not specified .....	22	5	27
Grand Total.....	24,582	28,450	53,032

*Classification of the Population of the Borough of Portsmouth,  
June, 1841.*

Occupation.	Males.		Females.		Total.
	20 Years and upwards.	Under 20 Years.	20 Years and upwards.	Under 20 Years.	
Persons engaged in trade, commerce, and manufactures .....	5,699	646	954	177	7,476
Persons engaged in agriculture—					
Farmers and graziers .....	29	....	1	....	30
Agricultural labourers .....	229	38	12	4	283
Gardeners, nurserymen, and florists .....	77	5	2	....	84
Labourers—					
Carriers, carters, and waggoners ....	16	4	....	....	20
Charwomen .....	....	....	156	8	164
Grooms and hostlers .....	23	3	....	....	26
Porters .....	43	18	....	....	61
Seamstresses .....	....	....	430	127	557
Washerwomen and laundresses .....	....	....	238	5	243
Not otherwise specified .....	1,345	135	18	1	1,499
Army .....	1,193	234	....	....	1,427
,, half-pay .....	8	....	....	....	8
Navy .....	611	38	....	....	649
,, half-pay .....	52	....	....	....	52
Marines .....	598	97	....	....	695
Seamen .....	667	62	....	....	729
Harbour-master .....	1	....	....	....	1
Pilots .....	21	....	....	....	21
Boatmen .....	146	7	....	....	153
Fishermen .....	85	8	....	....	93
Professional persons—					
Clergymen and divinity students ....	19	....	....	....	19
Ministers of other denominations ....	23	....	....	....	23
Legal—Attornies, solicitors, and law students .....	42	1	....	....	43
Conveyancer .....	1	....	....	....	1
Notary .....	1	....	....	....	1
Medical—Physicians .....	3	....	....	....	3
Surgeons and medical students .....	54	8	....	....	62
Other educated persons—					
Clerks .....	112	23	2	....	137
Schoolmasters and governesses .....	51	....	122	11	184
Teachers of languages .....	24	....	2	2	28
Government civil service—					
Dockyard .....	30	1	2	....	33
Customs and excise .....	65	....	....	....	65
Post office .....	18	....	....	....	18
Stamps and taxes .....	2	....	....	....	2
All other departments .....	5	....	....	....	5
Parochial and church officers .....	14	....	....	....	14
Law officers .....	2	....	....	....	2
Police officers, constables, and watchmen .....	72	....	....	....	72
Domestic servants .....	156	101	1,389	588	2,234
Carried forward .....	11,537	1,429	3,328	923	17,217



Classification of the Population of the Borough of Portsmouth, June, 1841.—  
Continued.

Occupation.	Males.		Females.		Total.
	20 Years and upwards.	Under 20 Years.	20 Years and under.	Under 20 Years.	
Brought forward .....	11,537	1,429	3,328	923	17,217
Nurses .....	....	....	45	1	46
Stewards .....	4	....	....	....	4
Other persons employed in trade, } branch not specified .....	26	41	11	1	79
Persons returned as independent .....	399	22	1,726	100	2,247
Almspeople, pensioners, paupers, } lunatics, and beggars .....	766	118	293	119	1,296
Other persons, including convicts and } prisoners .....	580	61	17	8	666
Residue of population .....	461	9,138	11,419	10,459	31,477
Grand Total .....	13,773	10,809	16,839	11,611	53,032

Abstract of the Classification of Persons Enumerated in the Borough of  
Portsmouth, June, 1841.

Occupation.	Males.		Females.		Total.
	20 Years and upwards.	Under 20 Years.	20 Years and upwards.	Under 20 Years.	
1. Persons engaged in trades, com- } merce, and manufactures .....	5,725	687	965	178	7,555
2. Persons engaged in agriculture ....	335	43	15	4	397
3. Labourers in other departments ....	1,427	160	842	141	2,570
4. Army, including half-pay .....	1,201	234	....	....	1,435
5. Navy, including half-pay, marines, } merchant-seamen, fishermen, } and boatmen .....	2,181	212	....	....	2,393
6. Professional persons—					
Clerical .....	42	....	....	....	42
Legal .....	44	1	....	....	45
Medical .....	57	8	....	....	65
7. Other educated persons .....	187	23	126	13	349
8. Persons engaged in the Govern- } ment civil service .....	120	1	2	....	123
9. Parochial, town, and church offi- } cers .....	88	....	....	....	88
10. Domestic servants .....	160	101	1,434	589	2,284
11. Persons returned as independent ...	399	22	1,726	100	2,247
12. Almspeople, pensioners, paupers, } lunatics, and beggars .....	766	118	293	119	1,296
13. Other persons, including convicts } and prisoners .....	580	61	17	8	666
Residue of population .....	461	9,138	11,419	10,459	31,477
Grand Total .....	13,773	10,809	16,839	11,611	53,032

In the preceding abstract, under the head of "Trade and Commerce," not only the shopkeepers and masters are included, but all those who have returned themselves as engaged in the several branches; from which the following may be selected, inasmuch as they indicate the nature of the occupations which more particularly characterise the borough. The greater number of persons under the respective denominations are employed in her Majesty's dockyard.

Occupation.	20 Years and upwards.	Under 20 Years.	Occupation.	20 Years and upwards.	Under 20 Years.
Blacksmiths .....	234	28	Sawyers .....	172	4
Carpenters and joiners .....	455	62	Ship builders and car- } penters.....	766	56
Painters, glaziers, and } plumbers .....	167	24	Caulkers .....	63	16
Rope and cord spinners .....	174	9	Riggers .....	41	....

The total 31,477, under the head of "Residue of the Population," comprises both sexes and all ages, as in the general return for the kingdom. Of this number, the proportion of males 20 years of age and upwards is 1·46 per cent. For the remainder, the following are the proportions:—Males under 20 years of age, 29·46 per cent.; females 20 years of age and upwards, 36·8 per cent.; females under 20 years, 33·7 per cent.; whilst for the whole kingdom, the proportions under the same heads are:—Males 20 years of age and upwards, 2·5 per cent. of the whole number; and of the remainder, the respective proportions are about 31, 32, and 33 per cent.

*Quarterly Returns of Marriages, Births, and Deaths, for the Year 1841.*

	Quarters ending				Total.
	March 31.	June 30.	Sept. 30.	Dec. 31.	
<i>Marriages.</i>					
Portsea island .....	86	173	246	220	725
<i>Births.</i>					
Portsmouth town .....	60	43	49	52	204
Portsea town .....	116	106	109	105	436
Kingston and Landport ....	100	97	95	90	382
Landport and Southsea ....	190	137	138	129	594
Total .....	466	383	391	376	1,616
<i>Deaths.</i>					
Portsmouth town .....	55	44	67	67	233
Portsea town .....	96	80	72	83	331
Kingston and Landport ....	105	56	55	74	290
Landport and Southsea ....	100	71	87	100	358
Total .....	356	251	281	324	1,212

*Gaol.*

The Gaol and House of Correction is under the jurisdiction and superintendence of the mayor and magistrates of the borough. The officers are, the gaoler, chaplain, surgeon, matron, and two turnkeys. The two first named are appointed by the mayor, the others by the mayor and magistrates.



Period.  (The Year ending at Michaelmas.)	Felonies.					Misdemeanours.					For Punish- ment by Courts Mar- tial.	Greatest Num- ber of Pri- soners at one time.	Total Num- ber Com- mitted.	Remarks.			
	Committals.			Con- victed.	Trans- ported.	For the As- sises.	Committals.			Con- victed.					Trans- ported.	For Debt.	
	For Examination.						For Examination and on Summary Process.										For Trial at the Ses- sions.
	Males.	Fem.	Total.				Males.	Fem.	Total.								
1803.....	147	68	215	83	47	12	274	114	388	9	2	...	...	625	War with France. { Many deserters from the Navy & disorderly women.		
1804.....	111	80	191	57	27	7	726	246	972	9	3	...	...	1,187			
1805.....	149	91	240	49	26	5	598	146	744	3	2	...	...	1,016			
1806.....	93	79	172	48	31	4	374	223	597	6	6	...	...	809	New gaol occupied.		
1807.....	108	63	171	55	23	2	416	235	651	20	6	...	...	838			
1808.....	114	63	177	60	40	11	357	114	471	1	...	...	...	677			
1809.....	113	32	145	71	48	10	344	126	470	12	2	...	...	651	Peace with France.		
1810.....	89	55	144	50	34	4	244	100	344	4	2	...	...	532			
1811.....	90	46	136	55	37	2	248	125	373	12	6	...	...	545			
1812.....	152	51	203	91	63	9	266	85	351	14	9	...	...	592			
1813.....	145	63	208	83	49	10	252	98	350	25	15	...	...	636			
1814.....	146	74	220	90	58	8	202	142	344	18	7	...	...	671			
1815.....	179	64	243	72	55	12	418	176	594	18	10	...	...	947			
1816.....	148	53	201	69	43	7	311	131	442	18	10	...	...	697			
1817.....	163	54	217	87	64	7	194	47	241	18	9	...	...	548			
1818.....	136	43	179	57	43	8	269	39	308	11	8	...	...	539			
1819.....	118	43	161	68	51	...	226	49	275	12	6	...	...	483			
1820.....	119	42	161	70	49	6	236	44	280	8	5	...	...	486			
1821.....	107	33	140	61	41	11	208	29	237	15	10	...	...	410	{ Act passed (9 Geo. IV., c. 31.) for trying assaults in a summary way.		
1822.....	100	38	138	61	44	5	214	82	296	20	10	...	...	471			
1823.....	76	23	99	47	32	8	238	79	317	36	17	...	...	454			
1824.....	102	49	151	73	41	11	207	45	252	12	5	...	...	61			
1825.....	117	50	167	73	45	8	180	60	240	10	3	...	...	434			
1826.....	67	23	90	46	31	8	236	65	301	20	11	...	...	446			
1827.....	96	30	126	54	38	8	233	45	278	21	6	...	...	50			
1828.....	101	39	140	62	46	11	194	59	253	29	11	...	...	65			
1829.....	107	38	145	66	42	12	203	38	241	8	4	...	...	62			
1830.....	120	40	160	86	72	19	196	53	249	8	4	...	...	58	Population 1801, 33,226. " 1811, 40,567. " 1821, 45,648. " 1831, 50,389.		
Total ...	3,313	1,427	4,740	1,844	1,220	225	8,064	2,795	10,859	397	189	4	1,037	263		16,899	
Maximum .....	179	91	243	90	72	19	726	246	972	36	17	2	73	...		1,187	
Minimum .....	67	23	90	46	26	...	180	29	237	1	...	...	15	...	410		
War Average...	127	63	190	66	41	7	259	147	506	12	5	...	38	...	744		
Peace Average	109	38	148	65	44	8	215	52	269	16	7	...	35	...	462		

The following details for the year 1841 are extracted from the Seventh Report of Inspectors of Prisons; the accompanying observations from the Report of the Governor of the Gaol:—

1841.—Population 53,032.

	Males.		Females.		Total.
	Adult.	Juvenile.	Adult.	Juvenile.	
Committed for trial during } the year .....	57	17	27	2	103
Rendered in court for trial	2	....	2	....	4
	59	17	29	2	107
These cases were thus disposed of—					
Convicted .....	42	14	20	1	77
Acquitted .....	6	1	3	....	10
No bills found .....	5	2	3	1	11
Not prosecuted .....	6	....	3	....	9
Total .....	59	17	29	2	107

Summary Convictions.

	Males.		Females.		Total.
	Adult.	Juvenile.	Adult.	Juvenile.	
By courts martial .....	34	....	....	....	34
Deserters awaiting a route	17	....	....	....	17
Under the Vagrant Act ....	17	....	16	....	33
Under the Malicious Tres- } pass Act .....	13	....	4	....	17
Under the Larceny Act ....	3	6	....	....	9
Under the Local Police Act	10	....	....	....	10
For assaults .....	19	5	9	...	33
For want of sureties .....	18	....	7	1	26
As known or reputed } thieves .....	4	6	....	....	10
Not otherwise specified ....	24	3	....	....	27
Total .....	159	20	36	1	216



Number of Prisoners in the course of the Year.

	Males.		Females.		Total.
	Adult.	Juvenile.	Adult.	Juvenile.	
In custody at the commencement of the year }	11	3	13	3	30
Received under commitments }	218	41	61	3	323
Committed for examination, and discharged .... }	47	6	49	2	104
Debtors at the commencement of the year .....	6	....	1	....	7
Debtors in the course of the year .....	52	....	3	....	55
Total .....	334	50	127	8	519
Greatest number of prisoners at any one time in the course of the year .....	59		32		91
Daily average throughout the year .....	44		16		60

Recommittals.

	Males.		Females.		Total.
	Adult.	Juvenile.	Adult.	Juvenile.	
Once .....	34	6	28	1	69
Twice .....	13	5	10	....	28
Thrice .....	6	2	3	....	11
Four times or more.....	7	2	3	....	12
Total .....	60	15	44	1	120

State of Instruction of Prisoners for Trial, or Tried, at the Assizes or Sessions.

	Males.		Females.		Total.
	Adult.	Juvenile.	Adult.	Juvenile.	
Can neither read nor write	7	5	5	....	17
Can read only .....	9	2	7	1	19
Can read and write imperfectly .....	27	8	16	1	52
Can read and write well ....	16	2	1	....	19
Total .....	59	17	29	2	107

*State of Instruction of Prisoners under Summary Conviction.*

	Males.		Females.		Total.
	Adult.	Juvenile.	Adult.	Juvenile.	
Can neither read nor write	27	10	20	....	57
Can read only .....	21	7	6	1	35
Can read and write imper- fectly .....	40	5	6	....	51
Can read and write well ....	20	2	....	....	22
Not ascertained .....	51	....	....	....	51
Total .....	159	24	32	1	216

*Ages of Prisoners.*

	For Trial.			Under Summary Conviction.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 12 years .....	....	....	....	3	....	3
12 years and under 14 ....	4	....	4	10	1	11
14 „ „ 17 ....	13	2	15	11	....	11
17 „ „ 21 ....	17	1	18	20	6	26
21 „ „ 30 ....	23	13	36	46	14	60
30 years and upwards .....	19	15	34	42	12	54
Not ascertained .....	....	....	....	51	....	51
Total .....	76	31	107	183	33	216

*Number of Prisoners Sentenced to Transportation.*

	Males.		Females.		Total.
	Adult.	Juvenile.	Adult.	Juvenile.	
7 and under 10 years ....	3	1	3	1	8
10 „ 14 „ ....	1	....	1	....	2
14 „ 15 „ ....	1	....	....	....	1
Total .....	5	1	4	1	11



*Number of Prisoners Sentenced by Courts of Justice.*

	Males.		Females.		Total.
	Adult.	Juvenile.	Adult.	Juvenile.	
To solitary confinement ....	19	12	6	....	37
To be whipped publicly ....	....	....	....	....	....
„ „ privately....	....	16	....	....	16

*Number of Punishments for Offences within the Prison.*

	Males.		Females.		Total.
	Adult.	Juvenile.	Adult.	Juvenile.	
Handcuffs and other irons	1	....	....	....	1
Dark cells .....	14	3	....	....	17
Solitary cells .....	20	7	....	....	27
Stoppage of diet .....	42	13	....	....	55
Total .....	77	23	....	....	100

These punishments are inflicted for disobedience of the rules for the good order and discipline of the gaol.

*Mode in which the Prisoners have been Employed.*

	Males.		Females.		Total.
	Adult.	Juvenile.	Adult.	Juvenile.	
Hard labour .....	140	....	....	....	140
Employment — not hard } labour .....	12	15	44	2	73
Not employed .....	125	35	79	6	245

The prisoners returned as “not employed,” are those who were not sentenced to hard labour. The employments for the males sentenced to hard labour are the tread-mill and beating and picking oakum. Females are employed in washing, cleaning the prison, and needle-work. The following is the average scale of treadmill labour :—

Average number of working hours per day .....	6 hours
Height of each step .....	9 inches
Number of steps per minute .....	50 steps
Average number of feet in ascent per day .....	13,500 feet
Ordinary proportion of prisoners off the wheel to the total number employed .....	one-half
Daily amount of labour in feet of ascent performed by every prisoner .....	6,750 feet
Application of its power .....	Raising water

*Cases of Lunacy, Sickness, and Death.*

	Males.		Females.		Total.
	Adult.	Juvenile.	Adult.	Juvenile.	
Slight indisposition.....	118	....	42	....	160
Infirmary cases .....	17	....	8	....	25
Criminal lunatics .....	....	....	....	....	....
Deaths.....	1	....	....	....	1
Total .....	136	....	50	....	186
Greatest number sick at one time: .....	7	....	6	....	13

The annual reports show that the gaol is usually in a healthy condition. Separate apartments are provided for the sick. In the year 1841, the number of prisoners the gaol was capable of containing was, when each prisoner slept in a separate cell, 47; when more than one prisoner slept in one cell, 59. The prisoners were divided into seven classes; there were eight day-rooms and seven airing-yards. Since that period, the gaol has been enlarged; twenty separate sleeping-cells and one work-room, and three airing-yards, have been added.

Each prisoner receives one pound and a half of bread and one pint of gruel per day; three-quarters of a pound of beef and one pint of soup on Fridays. Each day-room two bushels of coals per week in winter, and one in summer, and wood to light the fires. Soap, towels, razors, and combs, are allowed for the prisoners' use. Weekly cost per head, about 2s. 8d.

Each prisoner is allowed, in summer, a straw bed, a blanket, and a rug; in winter, an additional blanket. Cost per head, about 20s. Clothing per head, about 16s.

A chaplain was first appointed to the gaol in March, 1840. Morning and evening services are performed every Lord's-day, with two sermons. The chaplain attends the prisoners three times per week, two or three hours each time. Bibles, prayer-books, and other books of a moral and religious character, are provided.

Female prisoners are exclusively attended by female officers.



	£	s.	d.		£	s.	d.
Profits of Productive Labour .....	14	11	0	Total cost of Prison Diet .....	289	5	10
Received for subsistence of Military Prisoners.....	36	8	6	Clothing .....	19	19	4
Received from the Exchequer for the removal of Transports .....	12	18	3	Bedding and Straw .....	22	5	7
Actual cost to the Borough.....	1,048	17	4	Extra allowances by order of Surgeon.....	6	14	5
				Fuel .....	54	11	10
				Soap ..	16	18	2
				Candles, Oil, and Gas .....	18	0	0
				Stationery, Printing, and Books .....	6	8	0
				Rates and Taxes .....	12	18	0
				Officers' Salaries:—Gaoler .....	£200	0	0
				Chaplain .....	100	0	0
				Surgeon .....	31	10	0
				Turnkey .....	100	0	0
				Ditto .....	75	0	0
				Matron .....	25	0	0
				Removal of Prisoners .....	531	10	0
				Repairs, Alterations, and Additions .....	27	16	6
				Sundries, not enumerated .....	78	12	11
					27	14	6
					£1,112	15	1

Convict Establishment.  
Extract from the Report of the Convict Establishment for 1841.

Date.	Name of Hulk.	Station.	Expense.	Average Number of Convicts daily on board.	Number of Days' Labour performed.	Number of Artificers employed.	Number of Labourers employed.	Rate per Diem.	Artificers' and Labourers' Earnings, separately.	Total Value of Labour performed at each Ship.
Jan. 1st to June 30th, 1841	Leviathan ....	Portsmouth .	£ 4,682 9 8½	603	154	{ 2,596	78,340	s. d. 2 6	£ 324 10 0	£ 6,200 0 0
	York .....	Gosport ....	4,834 18 0	599	152	{ 760	68,067	1 6 2 6	5,875 10 0	5,200 0 6
	Leviathan ....	Portsmouth .	5,118 6 0½	630	157	{ 3,345	83,706	1 6 2 6	5,105 0 6	6,696 1 6
July 1st to Dec. 31st, 1841	York .....	Gosport ....	5,153 16 4½	616	158	{ 785	74,539.	1 6 2 6	98 2 6	5,688 11 0

Gift.	Date of Will.	Amount of Charity.	Devisees.	By whom the Devisees are selected.
Thomas Winter.	1679.	£200, or £10 per annum.	The Poor of the parish of Portsmouth.	Churchwardens and inhabitants of Portsmouth.
William Brandon.	Dec. 28, 1700.	£200, or £10 per annum.	The Poor of the parish of Portsmouth, who are not receiving parochial relief.	Churchwardens and inhabitants of Portsmouth.
Mr. Peck.	....	£1 per annum.	Poor of the parish of Portsmouth.	Churchwardens and inhabitants of Portsmouth.
John Timbrell.	....	£50.	Poor of the parish of Portsmouth.	Churchwardens and inhabitants of Portsmouth.
William Smith, M.D.	The school was built, with master's house attached to it, in 1732.	Grammar school. The master receives from the executors £130 per annum.	Sons of resident inhabitants of the borough of Portsmouth. The present number is 20.	A Committee appointed from time to time by the Dean and Chapter of Christ Church, Oxford; at present consisting of the Vicar of Portsmouth, Vicar of Portsea, Mayor of Portsmouth, Superintendent of Portsmouth Dockyard, Head Master.
John Mounsher.	....	£100, or £5 per annum.	Poor Widows of Portsmouth, not receiving parochial relief.	Churchwardens and inhabitants of Portsmouth.
Charles West.	Dec. 2, 1765.	£100, or £3 per annum.	The Poor, and the poor House-keepers in Portsmouth, not receiving alms from the parish.	Vicar of Portsmouth.
William Pike.	Oct. 25, 1774.	£300, or £12 per annum.	Poor of the parish of Portsmouth, not in constant receipt of parochial relief.	Sir John Carter, and his executors and administrators.
		£13 10s. 6d. per annum.	The Poor of the Dissenting Meeting-house in High-street, Portsmouth.	The Minister of the Congregation.
		Alms-Houses, consisting of 10 rooms.	Old persons in the parish of Portsmouth — chiefly Widows.	Minister and Churchwardens of Portsmouth.
Thomas Mills.	....	£100.	Poor of the parish of Portsmouth.	Churchwardens and inhabitants of Portsmouth.



## Parish of Portsmouth.

The Will of the Testator.	Executors and Trustees.	Remarks.
That the Aldermen and Burgesses of Portsmouth should distribute, yearly, on St. Thomas' Day, the sum of £10 to the Poor of the Parish of Portsmouth.	Thomas Heather, Thomas Barton, Lewis Allin, Thomas Brounker, John Skinner, Joseph Voake.	This Charity is in full operation.
That the Mayor and Aldermen of the Borough of Portsmouth distribute annually, on St. Thomas' Day, the sum of £10 to the Poor of the Parish of Portsmouth.	The Mayor and Aldermen of the borough of Portsmouth.	The last payment was made in 1708, since which no information can be obtained respecting this Charity.
....	....	The last payment was made in 1717. It is probable that the Charity consisted of a donation for a term of years, which expired in 1717.
....	Thomas Mills, Nicholas Hedger.	The last payment with respect to this Charity was made in 1730, since which no trace of it can be found.
....	Dean and Chapter of Christ Church, Oxford.	This Charity is in full operation.
....	John Vining, Charles Bissett, Samuel Henty.	The last payment with respect to this Charity was made in 1761, since which no trace of it can be found.
That one-half be given yearly, at Christmas, to the Poor; the other half to be distributed to 30 poor House-keepers.	James Norris, Samuel Ballard, Elias Arnaud, Thomas Bartlett.	This Charity is in full operation.
To be distributed to the Poor of Portsmouth annually, on St. Thomas' Day.	....	This Charity is carried out according to the donor's will.
....	John Carter, John Norman, John Franklin.	This Charity has been left chiefly by members of the Congregation. It is in full operation.
There is no account of the Testator's will, but each occupant receives 2s. per week from the parish, with a chaldron of coals in winter.	....	
....	Mayor and Aldermen.	

Gift.	Date of Will.	Amount of Charity.	Devisees.	By whom the Devisees are selected.
Thomas and Eleanor Brewer.	1666.	£3 per annum.	Poor Widows of Portsea.	Churchwardens and Overseers of the parish of Portsea.
Edward Craft.	June, 1780.	£933 6s. 8d. Reduced 3 per cent. stock.	Poor Widows', Labourers', and Artificers' Children, of the parish of Portsea, not receiving alms.	Minister and Commissioners of St. George's Chapel, Portsea, and donor's executors.
William Sheppard.	1797.	£100, or £5 per annum.	Poor Widows of the parish of Portsea.	Churchwardens, and occasionally by the inhabitants of the parish.
Richard Wilmot.	Jan. 22, 1805.	£500.	Sons of poor Widows resident in the parish of Portsea.	The executors during their lives, after which, by majority of the trustees.
Major Ebenezer Vavasour.	1808.	£100.	Six poor Children of the parish of Portsea.	President and Steward of the Beneficial Society of Portsea.
Thomas Fitzherbert.	June 8, 1821.	£10,000.	Certain persons named in the will, and after their decease, 5 poor Men, married or single, 10 poor Widows, and 5 poor single Women, at the age of 50 and upwards, born either in the Liberty or Guildable of Portsea, resident for 10 years previous to the period of their election.	The Vicar or his Curate, Minister of St. John's Chapel, the Minister of St. George's Chapel, Curate or officiating Minister of each and every new Church or Chapel having cure of souls, and the Churchwardens of the Guildable part of Portsea.
Elizabeth Mary Claypit.	August, 1851.	£500.	Poor Widows of the parish of Portsea, not receiving parochial relief.	Vicar and Churchwardens of the parish of Portsea.



## Parish of Portsea.

The Will of the Testator.	Executors and Trustees.	Remarks.
at Bread and Coals be distributed to the poor Widows of the parish of Portsea on St. Thomas' Day.	....	£1 on a paddock at Landport. £2 on a piece of land called Bidsclose. In consequence of a dispute, this Charity has not been in operation for some time; it is expected to be in full operation very soon.
at as many Boys as the money would allow be educated in reading, writing, and arithmetic, to fit them for trades.	Samuel Venables, William Drayton.	This Charity is in full operation.
at on Whit-Monday of every year Bread be distributed amongst such poor Widows of the parish of Portsea as the trustees shall think fit.	Churchwardens of the parish of Portsea.	This Charity is in full operation.
at 20 poor Boys be educated, for the space of three years, in the English language, writing, accounts, and navigation; 6 of these Boys are to be selected from the testator's poor relations, and 14 from the sons of poor widows.	Master-General of the Ordnance, Principal Engineer of Government Works in the island of Portsea, Superintendent of Dockyard, Master Shipwright of ditto, Members of Parliament for Southampton, Mayor of Portsmouth.	This Charity is in full operation.
at 6 poor Children be educated at the School of the Beneficial Society, Portsea.	Peter Stubbington, John Lutman, Henry Collins	This Charity is in full operation.
at the executors purchase £10,000 per cent. Consolidated Bank Annuities, for the purposes specified in the will, and that the annuitants receive an equal proportion of the interest, if not removed for any of the undermentioned causes:—1. Keeping a public-house; 2. Adultery, fornication, or habitual drunkenness; and, 3. Widows or single women marrying after election.	George Doyle, Frederick Bouth, Alexander Poulden, and others.	Subsequently £10,000, 4 per cent. were converted to 3½ per cent., and a question concerning the appropriation of the dividends thus changed was taken before the Court of Chancery; the expenses of the suit being discharged from the charity fund, there remains now an income of £325 to be applied annually for the benefit of annuitants. This charity is in full operation.
at the proceeds of £300 be distributed to the poor Widows of the parish of Portsea, and £200 be given to the Directors of the Portsmouth and Gosport Hospital.	Thomas Smith Edgcombe	This Charity is now in operation.

*Savings Bank.*

The following statements of the Portsmouth and Portsea Bank for Savings, which was established in the year 1816, afford a convincing proof that the poor are desirous of availing themselves of the benefits arising from this useful institution:—

Classes.	November, 1828.			November, 1841.		
	No. of Ac- counts.	Amount of each Class.			No. of Ac- counts	Amount of each Class.
		£	s.	d.		£ s. d.
Balances, including interest, not ex- ceeding £20 .....	603	4,653	4	0	1,511	11,214 15 8
Exceeding £20 and not exceeding £50	474	14,255	6	4	1,023	31,282 16 4
„ £50 „ „ £100	217	14,523	18	5	478	33,774 8 3
„ £100 „ „ £150	70	8,069	6	4	133	16,161 8 9
„ £150 „ „ £200	34	5,661	4	8	101	16,607 1 10
„ £200 .....	9	1,860	5	8	8	1,640 11 8
Number of Depositors .....	1,407	49,023	5	5	3,254	110,681 2 6
Charitable Societies .....	10	362	1	11	23	1,514 14 3
Friendly Societies .....	14	1,872	1	1	35	10,300 4 8
Total.....	1,431	51,257	8	5	3,312	122,496 1 5

*Friendly Societies.*

The following is a list of the Friendly Societies established within the borough of Portsmouth, and existing in the year 1841:—

Name of Society.	Where Established.	Date of Enrolment.
Religious Friendly Benefit Society.....	Portsea	Easter Sess. 1836
Provident and Humane Society .....	„	Mich. Sess. 1836
Ebenezer Benefit Society .....	„	„ „
United Brothers' Benefit Society .....	„	„ „
Philanthropic Burial Society .....	Landport	„ „
St. Thomas' Amicable Benefit Society .....	Portsmouth	„ „
United Brothers' Benefit Society .....	Landport	Epiph. Sess. 1837
Royal Marine Serjeants' Death and Discharge....	Portsmouth	„ „
Widow and Orphans' Fund Society .....	Landport	„ „
Hebrew Benevolent Society .....	Portsea	Mich. Sess. 1837
St. Alban's Friendly Society .....	Portsmouth	Mids. Sess. 1838
Benign Benefit Society .....	Portsea	„ „
Present Help Burial Society .....	Landport	Epiph. Sess. 1839
United Brethren Benefit Society .....	„	Mich. Sess. 1839
Portsea Island Annuitant Society .....	Portsea	Easter Sess. 1840
Union Insurance Benefit Society .....	Landport	„ „
Widows' Friendly Burial Society .....	Portsea	„ „
Benevolent Brothers' Society.....	Portsmouth	Mich. Sess. 1840
Good Samaritan Burial Society .....	Portsea	Epiph. Sess. 1841

*Indigenous Plants.*

The following is a summary of the Indigenous Flowering Plants and Ferns observed in the island of Portsea, and communicated to the Society to the present time, August, 1852. Several gentlemen are continuing the search in order to complete a local Flora of the island.



	Orders.	Genera.	Species.
Flowering Plants.—Dicotyledones .....	56	215	385
Monocotyledones .....	10	50	112
Ferns and their allies.—Acotyledones .....	2	9	12
Totals .....	68	274	509

Dicotyledones.

Orders.	Genera.	Species.	Orders.	Genera.	Species.
Ranunculacæ .....	3	15	Cornaceæ .....	1	1
Nymphæacæ .....	2	2	Umbelliferæ .....	22	29
Papaveracæ .....	2	3	Caprifoliacæ .....	2	2
Fumariacæ .....	1	2	Rubiaceæ .....	2	7
Cruciferæ .....	17	22	Dipsacæ .....	3	3
Resedacæ .....	1	2	Compositæ .....	36	57
Violacæ .....	1	2	Campanulacæ .....	1	1
Droseracæ .....	1	1	Ericacæ .....	2	2
Polygalacæ .....	1	1	Ilicacæ .....	1	1
Frankeniaceæ .....	1	1	Jasminaceæ .....	2	2
Caryophyllacæ .....	11	22	Gentianaceæ .....	1	2
Linacæ .....	2	3	Convolvulacæ .....	2	4
Malvacæ .....	1	3	Solanaceæ .....	2	3
Hypericacæ .....	1	3	Scrophulariacæ .....	10	25
Aceracæ .....	1	1	Orobanchacæ .....	1	2
Geraniaceæ .....	2	7	Verbenacæ .....	1	1
Celastraceæ .....	1	1	Lamiaceæ .....	12	19
Leguminiferæ .....	12	33	Boraginaceæ .....	4	8
Rosaceæ .....	11	19	Primulacæ .....	5	6
Onagraceæ .....	1	2	Plumbaginaceæ .....	2	2
Haloragiaceæ .....	2	3	Plantaginaceæ .....	1	5
Lythracæ .....	1	1	Chenopodiaceæ .....	6	14
Cucurbitacæ .....	1	1	Polygonaceæ .....	2	13
Portulacaceæ .....	1	1	Thymelæaceæ .....	1	1
Illecebraceæ .....	1	1	Euphorbiaceæ .....	2	5
Grossulariaceæ .....	1	1	Urticacæ .....	4	6
Crassulacæ .....	1	2	Amentiferæ .....	4	7
Saxifragaceæ .....	1	1			
Araliaceæ .....	1	1	Total.....	215	385

Monocotyledones.

Orders.	Genera.	Species.	Orders.	Genera.	Species.
Orchidaceæ .....	4	5	Araceæ .....	4	8
Iridaceæ .....	1	1	Juncaceæ .....	2	10
Liliaceæ .....	3	3	Cyperaceæ .....	2	18
Tamaceæ .....	1	1	Gramina .....	27	57
Alismaceæ .....	2	3			
Fluviales .....	4	6	Total.....	50	112

Acotyledones.

Orders.	Genera.	Species.
Filices .....	8	11
Pteridioides .....	1	1
Total.....	9	12

*Statistics of Mental Diseases in Denmark, according to the Census of July 1st, 1847. By DR. J. R. HÜBERTZ, of Copenhagen.*

[Read before the Statistical Society, 21st February, 1853.]

I.

THE Government having ordered researches to be made into the number, the state, &c., of persons labouring under mental derangement, a general inquiry was instituted throughout the kingdom, on the 1st of July, 1847, the results of which will be laid before the reader in the following treatise.

For reasons that cannot here be explained, the duchies, Iceland, and the colonies, were not taken into consideration. By an order of the minister under whose charge the medical department is, the author was honoured with the task of drawing up an account of the reports.

The persons affected with mental diseases are divided into two chief classes, viz. idiots and lunatics; and, as different opinions (at least on the Continent) are prevalent, respecting the meaning of these terms, I shall at once give the sense in which they are used here. By the term idiot, I would have understood those who are born with such defective mental faculties, that they never did show signs of understanding, or at least always had been of very imperfect intellect. On the other hand, lunatics are understood to be such as have once had a sound intellect, which, in the course of life, has been weakened or deranged. Yet, the reporters not always having been able to find out at what time, in early childhood, the disease had taken its beginning, I have been obliged to comprise those born with imperfect intellects, and part of those affected in early childhood (as far as I can remember about 400 or 500 individuals), under the one head, idiots. It is to be hoped, that some means may be found to avert this inconvenience for the future.

To find out the number of the inhabitants on the 1st of July, in relation to which the proportions of deranged persons were to be calculated, the population generally increasing 1 in 100 yearly, there has been added  $2\frac{1}{2}$  in 100 for the supposed augmentation in the  $2\frac{1}{2}$  years which have elapsed since the census of 1845. Now the census of 1850 shows that the population of the kingdom of Denmark, during five years, has increased not more than 4 in 100; the difference, however, being so very insignificant, may be looked upon as not existing, as it will only alter the proportion by  $\frac{1}{1000000}$ , when we compare the whole amount of deranged persons with the whole population, and it will not be observed when the comparison is made with the population of the minor divisions of the country.

Perhaps it will not be deemed quite superfluous to add, that the kingdom of Denmark is divided into *Stifts*, for ecclesiastical administration (a *Stift* meaning the same as a diocese), and into *Amts*, for civil administration. The subdivision of an *Amt* is called a *Herred*. For the convenience of the lunacy department, it has been proposed to divide the kingdom into three districts, and though this



division has not yet received the sanction of the government, it has been adopted in some of the tables. The districts are:

First district, comprising the island of Seeland, and its dependencies as a diocese, together with the islands of Lolland and Falster.

Second district, containing the island of Funen, and its dependencies.

Third district, North Jutland.

The colouring of the map\* is to show the relation of the soil to geology; not surely as if I meant to state, that insanity has anything whatever to do with geology; but the different geognostic formations varying very much in fertility, and in other respects, I have thought myself justified in not wholly withdrawing my attention from them.

The larger numbers on the map denote the amount of deranged persons in 1000 inhabitants in the *Herreds*, the smaller ones the amount in 1000 inhabitants in the towns and parishes, where the proportion was, at least, 5 insane persons in 1000 inhabitants, and the numbers are put down in the map, as near as possible to the spot where the town, &c., is situated.

The numbers for towns and parishes, where smaller proportions exist, together with the number for Amts, &c., are left out, in order not to encumber the map.

The chief object of the present publication is to give an account of the exertions of the Danish government, to elucidate, as far as regards its dominion, the state, &c., of the disease, and further to draw attention to a department of science that has hitherto been much neglected.

Mental disease, as it now stands, has in every country two sides, which require to be distinguished: on the one hand, we find the insane collected in asylums and proper establishments, under the care of the most able medical men; on the other hand they are found dispersed over wide countries, almost devoid of medical aid, and neglected until they grow troublesome to society. In this way the disease is left to propagate at leisure, without any effort being made to circumscribe its ravages.

We are of opinion, that if the disease, without the asylums, was observed with the same zeal, the same diligence, and the same perseverance as it is within, we should soon be able, if not wholly to prevent the disease, at least in a great degree to retrench its limits.

But, in order to obtain this result, it will be absolutely necessary to have the same researches continued for at least ten or twenty years, and every year the results put forward. In short, labour is wanting, and that a labour patronized by the greater states. The smaller countries, also, may be able to do much good in this way, and even Denmark is in possession of many of the qualities required. In point of size and individuality, the said kingdom is large and distinct enough to give results of some interest, but not to answer all the necessary purposes; for after a most diligent scrutiny, we are at a loss to know whether the results obtained are local or universal, and are always obliged to act with great caution before we make use of them for scientific purposes.

But to revert to the treatise now before the reader, we feel

\* Published in the "Annales Médico-psychologiques."

obliged to declare that we cannot take upon ourselves the responsibility of all the reports, though, in general, they have seemed to us drawn up conscientiously, and have inspired us with nothing but confidence. The reporters of the two northernmost Herreds in Jutland had agreed to admit to their reports only insane persons of a certain description, and it is therefore that the proportions in these Herreds are less than they certainly ought to be.

## II.—*Number and relative proportions of persons labouring under mental derangement.*

1. In the kingdom there were found 3756 persons, in some way or other, labouring under mental derangement, of these 1865, or 49·70 in 100, were males, 1891, or 50·30 in 100, females. The proportions between the two sexes, in the nation at large, being at the same time 49·44 in 100 males, and 50·56 females, the former were in a slight degree less affected with the disease than the latter.

953, or 25·37 per cent., lived in the towns, 2803, or 74·63 per cent. in the country.

Of those living in the towns, 439, or 46·07 in 100, were males, 514, or 53·93 in 100, were females; in the country, 1426, or 50·87 in 100, were males, 1377, or 49·13 in the 100, were females.

1995, or 53·12 in 100, were idiots, and 1761, or 46·88 in 100, were lunatics.

Of the idiots, 1066, or 53·43 in 100, were males, 929, or 46·57 in 100, were females. Of the lunatics, 799, or 45·37 in 100, were males, 962, or 54·63 in 100, females. If these statements are to be relied on, women would be less exposed to be affected with idiotism, but more with lunacy than our sex. 295, or scarcely 11 in 100 of idiots, were living in the towns, and among these, 150, or 50·85 in 100, were males, 145, or 49·15 in 100, females. 1700, or about 89 in 100, were living in the country, and of these, 916, or 54 in 100, were males, 784, or about 46 in 100, females. 658, or 37 in 100 of lunatics, were living in the towns, 1103, or 63 in 100, in the country. Of lunatics in the towns, 289, or 43 in 100, were males, 369, or 57 in 100, females; in the country, 510, or 46 in 100, were males, 593, or 54 in 100, were females.

Assuming that the facts laid down above may be relied on, it does not seem unreasonable to suppose, that the difference in the statements of writers respecting the frequency of the disease, in this or that sex, may, at least in some degree, find its explanation in the fact, of authors having at one time had more lunatics or more idiots, more of the town, or more of the country population under observation, than at another.

For further particulars I refer to the tables.



TABLE I.

*Idiots and Lunatics in Denmark on the 1st of July, 1847.*

Amts, Districts, &c.	Males.			Females.			Totals.		
	Married.	Unmarried.	Widowers.	Married.	Unmarried.	Widows.	Males.	Females.	Total.
Amt of Copenhagen	39	228	18	41	257	39	285	337	622
„ Frederiks- borg.....	3	88	5	10	68	16	96	94	190
„ Holbek .....	9	100	5	10	77	5	114	92	206
„ Sorö .....	5	59	4	6	51	7	68	64	132
„ Præstø .....	11	76	3	14	79	15	90	108	198
„ Barnholm ....	3	27	2	3	42	4	32	49	81
„ Færo Isles....	4	20	....	4	17	3	24	24	48
„ Maribo .....	7	61	2	6	65	6	70	77	147
Total, 1st District	81	659	39	94	656	95	779	845	1,624
Amt of Odensee ....	7	128	5	9	134	18	140	161	301
„ Svendborg....	4	102	1	8	69	14	107	91	198
Total, 2nd District	11	230	6	17	203	32	247	252	499
Amt of Hjørring ....	2	71	2	9	70	6	75	85	160
„ Thisted .....	6	67	2	3	73	2	75	78	153
„ Aalborg .....	4	86	5	13	66	7	95	86	181
„ Viborg .....	7	68	3	4	55	4	78	63	141
„ Randers.....	2	81	2	7	78	5	85	90	175
„ Aarhus .....	2	62	1	2	56	3	65	61	126
„ Skanderborg	3	61	2	5	49	5	66	59	125
„ Veile .....	4	83	2	10	61	12	89	83	172
„ Ringkjöbing	15	98	3	7	78	12	116	97	213
„ Ribe .....	7	86	2	20	62	10	95	92	187
Total, 3rd District	52	763	24	80	648	66	839	794	1,633
Grand Total .....	144	1,652	69	191	1,507	193	1,865	1,891	3,756
<i>Towns.</i>									
City of Copenhagen	31	152	14	36	208	35	197	279	476
Towns of 1st District	38	218	18	41	270	49	274	360	634
„ 2nd „	7	42	....	3	43	9	49	55	104
„ 3rd „	8	104	4	10	83	6	116	99	215
Total of Towns....	53	364	22	54	396	64	439	514	953
<i>Country.</i>									
1st District .....	43	441	21	53	386	46	505	485	990
2nd „ .....	4	188	6	14	160	23	198	197	395
3rd „ .....	44	659	20	70	565	60	723	695	1,418
Total of Country	91	1,288	47	137	1,111	129	1,426	1,377	2,803

TABLE II.

*Deranged Persons in Denmark (Idiots and Lunatics) in 1,000 Inhabitants on the 1st of July, 1847.*

Amts, Districts, &c.	Males.			Females.			Totals.		
	Married.	Unmarried.	Widowers.	Married.	Unmarried.	Widows.	Males.	Females.	Total.
Amt of Copenhagen ....	1·33	3·45	5·08	1·42	4·20	3·26	2·88	3·30	3·09
„ Frederiksborg....	0·24	3·73	3·69	0·79	3·01	5·12	2·55	2·45	2·50
„ Holbek .....	0·69	4·35	4·31	0·77	3·49	1·69	3·07	2·42	2·74
„ Sorö .....	0·43	2·75	4·09	0·52	2·57	2·59	1·99	1·88	1·93
„ Præstö .....	0·77	3·07	2·54	0·98	3·42	4·65	2·23	2·66	2·45
„ Barnholm .....	0·66	3·33	4·21	0·66	5·08	3·09	2·44	3·48	2·98
„ Færo Isles .....	3·14	8·10	0·00	3·13	7·25	9·07	6·14	6·07	6·11
„ Maribo .....	0·52	2·59	1·61	0·45	2·89	1·91	1·84	1·98	1·91
Total, 1st District	0·81	3·42	3·86	0·94	3·61	3·30	2·57	2·73	2·65
Amt of Odense .....	0·43	3·94	2·98	0·56	4·35	4·43	2·78	3·16	2·97
„ Svendborg .....	0·29	3·67	0·83	0·58	2·66	4·02	2·50	2·11	2·30
Total, 2nd District	0·37	3·82	2·08	0·57	3·58	4·24	2·65	2·68	2·66
Amt of Hjørving.....	0·17	3·35	1·59	0·77	3·37	2·10	2·19	2·41	2·30
„ Thisted .....	0·73	4·73	2·56	0·37	4·95	1·12	3·25	3·16	3·20
„ Aalborg .....	0·38	4·21	4·33	1·23	3·45	2·46	2·95	2·64	2·79
„ Viborg .....	0·70	3·57	3·05	0·40	2·99	1·79	2·59	2·06	2·32
„ Randers .....	0·17	3·64	1·62	0·59	3·62	1·79	2·40	2·49	2·44
„ Aarhus .....	0·30	4·58	1·39	0·30	4·51	1·92	3·09	2·95	3·02
„ Skanderborg ...	0·39	4·14	2·67	0·66	3·57	2·93	2·86	2·57	2·72
„ Veile .....	0·35	3·68	2·06	0·89	2·94	4·72	2·55	2·40	2·48
„ Ringkjöbing ...	1·51	5·68	3·22	0·70	4·22	4·86	4·13	3·14	3·61
„ Ribe .....	0·69	4·68	1·83	1·97	3·42	3·56	3·21	2·96	3·08
Total, 3rd District	0·53	4·16	2·43	0·82	3·64	2·80	2·88	2·65	2·76
Grand Total .....	0·63	3·78	3·02	0·84	3·62	3·22	2·71	2·69	2·70
<i>Towns.</i>									
City of Copenhagen.....	1·75	3·51	6·54	2·08	5·09	4·05	3·13	4·17	3·66
„ „ and the towns of the 1st District .....	1·44	3·47	5·79	1·59	4·57	4·12	2·97	3·72	3·36
2nd „ .....	1·62	4·27	0·00	0·71	4·55	5·64	3·36	3·60	3·48
3rd „ .....	0·81	4·75	3·72	1·05	4·07	1·69	3·54	2·96	3·25
Total of Towns ....	1·31	3·85	4·75	1·37	4·45	3·76	3·14	3·54	3·34
<i>Country.</i>									
1st District.....	0·58	3·39	3·01	0·72	3·14	2·72	2·39	2·27	2·33
2nd „ .....	0·16	3·73	2·47	0·55	3·38	3·86	2·52	2·50	2·51
3rd „ .....	0·50	4·08	2·27	0·77	3·58	2·99	2·79	2·61	2·70
Total of Country....	0·48	3·76	2·58	0·73	3·39	3·01	2·60	2·47	2·53



2. But, as the great number of idiots, who are generally single, swell the columns of unmarried persons, it perhaps will be of some interest to give the proportions of lunatics only ; as below, in order to show more clearly the influence of widowhood, as productive of the disease.

TABLE III.

Proportions of Lunatics (exclusive of Idiots) to 1,000 Inhabitants, on the 1st of July, 1847.

Towns and Country.	Males.			Females.			Totals.		
	Married.	Unmarried.	Widowers.	Married.	Unmarried.	Widows.	Males.	Females.	Total.
1st District.....	0·73	1·43	3·83	0·91	1·73	3·02	1·28	1·58	1·43
2nd „ .....	0·37	1·49	2·08	0·57	1·06	3·84	1·15	1·13	1·14
3rd „ .....	0·51	1·23	2·43	0·80	1·20	2·75	1·03	1·19	1·11
The whole of Denmark	0·59	1·35	3·00	0·82	1·41	3·02	1·15	1·35	1·25
Copenhagen.....	1·70	2·49	6·54	2·08	4·04	4·05	2·41	3·53	2·99
Remaining towns .....	1·29	2·28	4·77	1·35	2·87	3·65	2·07	2·55	2·31
In the Country .....	0·43	1·10	2·54	0·70	1·01	2·77	0·92	1·04	0·98

III.—Religious confessions of deranged persons.

1. According to the reports, not a few had grown up to maturity, nay, even to old age, without having been susceptible of religious notions. 10 individuals, 2 males and 8 females, had been confirmed only at an age of above 20 years. 308 individuals had passed their 20th year without having been thought qualified to be admitted to confirmation, of whom 165 were males, 143 females. The whole of these persons confirmed so late, or not at all, amounted to 318, thus distributed over the country. In the first district there were found 75, second district 49, third district 194, or taken in proportion to the population, and for Denmark the average was 0·23; in the first district 0·12, in the second 0·26, in the third 0·33, in 1,000 inhabitants, the proportions increasing towards the west, in respect to these fatuous persons, just as in respect to the insane in general, as will be shown hereafter.

2. The proportions of the idiots and insane in 1,000 inhabitants of the different confessions, offered rather considerable variations.

Thus, the Catholics had 3·34 in 1,000  
the Jews ..... 5·85     ,,  
the Calvinists .... 9·16     ,,

The nation at large, being of the Lutheran confession, and the

average in the entire population being 2·70, we should thence conclude that the Lutherans were not affected to a like degree with the malady, as the other confessions; but the tables which have served as a basis for the calculations, not being considered as over exact on this point, the reader is forewarned not to be in too great a hurry to draw conclusions from what we have just stated. The only thing further worth mentioning is, that among those confirmed at a late period of life, one, a man of above 30 years, became suddenly aroused, and desired to be taught reading, that he might be confirmed, which accordingly took place in his 36th year, after which time he was pretty reasonable for some few years, but afterwards he relapsed into stupid fatuity again.

Among those having passed their 20th year, without having been confirmed, there was a man of 52 years, of whom the report stated that just at the time of this inquiry he was about to be taught, and that he, probably, thereafter would be confirmed.

These two instances show that, even in idiotism, without any help from art, there may come a period when the understanding to a certain degree will break through the cloud that surrounds it, but the intellect being weak, and the organs to bear it out in its workings imperfect, the lucid interval will, of course, be of short duration and little avail.

#### IV.—*Age of Deranged Persons.*

Table IV. gives the number of idiots and lunatics at different ages, and Table V. the per-centage proportion of the same. The illness not showing itself in the first days of life, or not being liable to be recognized at this time, its appearance in the early stages is less frequent, but we find a very sensible augmentation in the number of idiots who have attained the age of from 10 to 15. The culminating period is from 20 to 25 for male idiots, from 15 to 20 for the female ones. For male lunatics the culminating period is from 35 to 40, for female ones, from 45 to 50.





**TABLE V.**  
*Calculation of the preceding Tables.*

[illegible]



2. To enable the reader to compare, we have drawn up the following table, which contains, in the first column, the whole population, in the different stages of life, in the second, the calculation of the proportions, and in the third, the number of idiots and lunatics in 1000 inhabitants of every class of age.

TABLE VI.

*The whole Population of Idiots and Lunatics in every Class of Age.*

Classes of Age.	Population, 1st July, 1847.	Proportions of the Classes of Age in 100.	Number of Idiots and Insane in the Individual Classes of Age in 1,000.
From 0 to 1 year ....	38,909	2·800	0·00
„ 1 „ 3 years....	68,489	4·900	0·13
„ 3 „ 5 „ ....	66,418	4·800	0·43
„ 5 „ 10 „ ....	149,631	10·700	0·98
„ 10 „ 15 „ ....	132,528	9·500	1·94
„ 15 „ 20 „ ....	131,867	9·500	2·48
„ 20 „ 25 „ ....	132,835	9·500	2·89
„ 25 „ 30 „ ....	118,318	8·500	3·03
„ 30 „ 35 „ ....	92,266	6·600	3·66
„ 35 „ 40 „ ....	88,488	6·300	3·70
„ 40 „ 45 „ ....	80,552	5·800	4·02
„ 45 „ 50 „ ....	70,825	5·100	4·72
„ 50 „ 55 „ ....	57,879	4·100	4·42
„ 55 „ 60 „ ....	46,055	3·300	5·19
„ 60 „ 65 „ ....	40,422	2·900	4·33
„ 65 „ 70 „ ....	33,222	2·400	3·91
„ 70 „ 75 „ ....	20,696	1·500	2·75
„ 75 „ 80 „ ....	13,443	1·000	2·68
„ 80 „ 85 „ ....	6,399	0·500	2·19
„ 85 „ 90 „ ....	3,152	0·200	3·25
„ 90 „ 95 „ ....	466	0·030	2·15
„ 95 „ 100 „ ....	91	0·006	10·99
„ 100 „ 105 „ ....	14	0·001	0·00
„ 105 „ 110 „ ....	2	0·000	0·00
Totals .....	1,391,967	100·000	....

3. On the occasion of the census of the kingdom of Denmark, in 1845, it was observed that the Danish nation, having 8·38 individuals in 100 living to above 60, was in a satisfactory condition as to longevity.

The mental derangement increasing every day, even in the highest classes of age, we cannot compare the movement of the whole of the patients with that of the population; but the idiots, being subjected to the same laws of movement, are better adapted to furnish the basis of a comparison of this sort.

The population then, having 8·38 in 100 above the age of 60, and the idiots no more than 4·74 in 100, according to the census 1845, and only 3·9 in 100 according to that of 1847, we have the right to conclude that cretinism and idiotism have a great influence upon the diminution of life.

We add a recapitulation of Table V., comprehending the lunatics in 1845, and one column for the whole population.

TABLE VII.  
*Recapitulation.*

Classes of Age.	Males and Females.			
	Idiots in 1847.	Lunatics in 1845.	Lunatics in 1847.	The whole Population.
From 0 to 30 years ....	58·00	20·70	20·24	60·29
„ 30 „ 50 „ ....	29·26	41·96	42·17	23·87
Above 50 and unknown	12·74	37·34	37·59	15·84
	100·00	100·00	100·00	100·00

V.—*On the State and Professions of the Patients.*

1. The Tables VIII. and IX. are drawn up on the model that has been given by Moreau de Jonnés, in “*La Statistique de la France*,” to establish comparisons; without any utility, however, having resulted from it, in consequence of the relations of the two nations being too distant. The first table contains the professions of the fathers of the patients, the second, those of the patients themselves.

The Danish nation being chiefly an agricultural people, 75 in 100 of the inhabitants living in the country, and only 25 in 100 in the towns, the great number of deranged persons among the former will not be found surprising.

TABLE VIII.  
*Professions of the Fathers of the Patients.*

	Number.	Proportions.
Ecclesiastics, doctors, teachers, and clerks.....	143	46·37
Soldiers.....	15	4·87
Artists (Painters).....	8	2·59
Merchants and tradesmen .....	45	14·59
Workmen { In wood .....	36	11·67
{ In iron .....	12	3·89
{ Masons.....	4	1·30
{ In clothes (tailors and weavers) .....	25	8·10
{ In leather.....	23	7·46
{ Rope-makers .....	5	1·62
Retailers of provisions.....	44	14·27
Seafaring men .....	62	20·10
Agriculturists .....	2,562	830·74
Daily labourers.....	58	18·81
Natural children of whom it was unknown .....	42	13·62
Totals .....	3,084	1000·00

2. Some of the patients exercised professions, of which 914 cases are well known.



TABLE IX.  
*Professions of the Patients themselves.*

	Number.	Proportions.	
Ecclesiastics, doctors, teachers, and clerks.....	27	29·54	
Soldiers.....	6	6·56	
Artists .....	5	5·47	
Merchants and tradesmen .....	28	30·64	
Workmen {	In wood .....	24	26·26
	In iron .....	7	7·66
	Masons .....	3	3·28
	In clothes .....	33	36·11
	In leather.....	20	21·88
	Rope-makers : .....	6	6·56
Retailers of provisions .....	8	8·75	
Seafaring men .....	10	10·94	
Agriculturists .....	718	785·56	
Daily labourers .....	19	20·79	
Totals.....	914	1000·00	

VI.—*On the Duration of Lunacy.*

1. When we remember how difficult it is for doctors to state exactly the duration of the cases that come under their observation, it would, perhaps, be somewhat bold to rely on the statement of reports, of which only some have been drawn up by professional men. But we have forewarned our readers, and we give the facts as we have received them.

TABLE X.  
*Duration of Mental Derangement.*

Periods of Duration.	Among Men.			Among Women.		
	In the Towns.	In the Country.	Total.	In the Towns.	In the Country.	Total.
From 0 to 1 year ....	32	32	64	27	39	66
„ 1 „ 3 years....	28	45	73	31	61	92
„ 3 „ 5 „ ....	25	47	72	33	49	82
„ 5 „ 10 „ ....	41	98	139	70	111	181
„ 10 „ 15 „ ....	29	72	101	39	78	117
„ 15 „ 20 „ ....	36	83	119	36	98	134
„ 20 „ 25 „ ....	29	37	66	35	43	78
„ 25 „ 30 „ ....	23	23	46	29	37	66
„ 30 „ 35 „ ....	11	19	30	12	11	23
„ 35 „ 40 „ ....	6	16	22	7	13	20
„ 40 „ 45 „ ....	....	6	6	....	9	9
„ 45 „ 50 „ ....	....	1	1	2	4	6
„ 50 „ 55 „ ....	....	1	1	....	1	1
„ 55 „ 60 „ ....	....	2	2	2	....	2
„ 60 „ 65 „ ....	....	1	1	....	1	1
Unknown duration ....	29	27	56	46	38	84
Totals.....	289	510	799	369	593	962

From the calculations contained in the following table, we see that the cases of short duration are more frequent in the towns, and the cases of long duration in the country, a result which probably should be attributed to medicine.

TABLE XI.

*Proportions in the Different Periods of the Duration of the Disease.*

Periods of Duration.	Among Men.			Among Women.		
	In the Towns.	In the Country.	Total.	In the Towns.	In the Country.	Total.
From 0 to 1 year ....	11·07	6·27	8·01	7·32	6·57	6·86
„ 1 „ 3 years....	9·69	8·82	9·13	8·40	10·29	9·56
„ 3 „ 5 „ ....	8·65	9·22	9·01	8·94	8·26	8·52
„ 5 „ 10 „ ....	14·19	19·22	17·40	18·97	18·72	18·82
„ 10 „ 15 „ ....	10·03	14·12	12·64	10·57	13·15	12·16
„ 15 „ 20 „ ....	12·46	16·27	14·89	9·75	16·53	13·94
„ 20 „ 25 „ ....	10·03	7·25	8·26	9·49	7·23	8·11
„ 25 „ 30 „ ....	7·96	4·51	5·76	7·86	6·26	6·86
„ 30 „ 35 „ ....	3·81	3·72	3·75	3·25	1·86	2·39
„ 35 „ 40 „ ....	2·08	3·14	2·75	1·90	2·19	2·08
„ 40 „ 45 „ ....	....	1·18	0·75	....	1·52	0·94
„ 45 „ 50 „ ....	....	0·20	0·13	0·54	0·67	0·62
„ 50 „ 55 „ ....	....	0·20	0·13	....	0·17	0·10
„ 55 „ 60 „ ....	....	0·39	0·25	0·54	....	0·21
„ 60 „ 65 „ ....	....	0·20	0·13	....	0·17	0·10
Unknown duration ....	10·03	5·29	7·01	12·47	6·41	8·73
Totals.....	100·00	100·00	100·00	100·00	100·00	100·00

2. It is a question of some note, how great is the annual increase in this department, or, in other words, how many persons will yearly be affected with insanity? A great part of those attacked with the disease, being cured and restored, or dying in a short space of time, and accordingly not coming under the view of the reporters, a strict answer to the question is not to be had for the present; but, through the information we have, we are able pretty accurately to discern how many will yearly swell the reports. On a former occasion, partly by supposition, I have stated the annual increase of lunatics to be about 140 cases. In the year 1845, their number was stated to be 133; in 1847, it was 130.

The average duration, the cases of unknown duration calculated at 15 years, was as follows:—

For 1840 .....	13·70 years.
„ 1845 .....	13·00 „
„ 1847 .....	13·48 „

There is a great uniformity in these numbers, and yet they must be used with great circumspection, as in some cases the disease may, for a long time, have eluded observation. Further, it must be observed, that in the class of idiots, a good many were stated to have pined with the disease from early childhood, many of whom, probably, ought to have been taken together with lunatics; and coming up for the duration of almost a whole life, would have considerably aug-



mented the average duration of the class. Lastly, we have no knowledge of those cured, or of those that have died in the course of the year; and wanting data of so great moment, we are certainly not warranted in making statements about the average duration.

If, however, the annual augmentation is supposed to be 135 individuals, and the average duration 13·39 years, we ought to have found 1,808 deranged persons in the country, on the 1st of July, 1847; but we have found only 1,761. The difference of 47 must be attributed then to cures or deaths.

VII.—Age of Lunatics at the beginning of the Disease.

1. Subtracting the duration of the disease from the age of the sick, we very readily find out at what period the disease had taken its commencement.

TABLE XII.  
*The Age of Lunatics at the beginning of the Disease.*

Classes of Age.	Among Men.			Among Women.		
	In the Towns.	In the Country.	Total.	In the Towns.	In the Country.	Total.
From 0 to 1 year ....	2	4	6	3	8	11
„ 1 „ 3 years....	2	22	24	7	13	20
„ 3 „ 5 „ ....	2	8	10	3	6	9
„ 5 „ 10 „ ....	1	16	17	5	21	26
„ 10 „ 15 „ ....	7	30	37	9	18	27
„ 15 „ 20 „ ....	26	81	107	38	84	122
„ 20 „ 25 „ ....	33	86	119	41	61	102
„ 25 „ 30 „ ....	38	57	95	46	70	116
„ 30 „ 35 „ ....	39	54	93	39	55	94
„ 35 „ 40 „ ....	35	45	80	44	59	103
„ 40 „ 45 „ ....	33	26	59	32	44	76
„ 45 „ 50 „ ....	18	20	38	14	39	53
„ 50 „ 55 „ ....	9	13	22	15	25	40
„ 55 „ 60 „ ....	8	10	18	9	20	29
„ 60 „ 65 „ ....	5	9	14	8	13	21
„ 65 „ 70 „ ....	....	....	....	7	7	14
„ 70 „ 75 „ ....	1	3	4	1	4	5
„ 75 „ 80 „ ....	....	1	1	1	4	5
„ 80 „ 85 „ ....	....	....	....	....	3	3
„ 85 „ 90 „ ....	....	....	....	....	....	....
„ 90 „ 95 „ ....	....	....	....	....	1	1
Unknown age .....	30	25	55	47	38	85
Totals.....	289	510	799	369	593	962

TABLE XIII.

*Proportions of the Age of Lunatics at the beginning of the Disease.*

Classes of Age.	Among Men.			Among Women.		
	In the Towns.	In the Country.	Total.	In the Towns.	In the Country.	Total.
From 0 to 1 year ....	0·69	0·78	0·75	0·81	1·35	1·14
„ 1 „ 3 years ....	0·69	4·32	3·02	1·90	2·19	2·08
„ 3 „ 5 „ ....	0·69	1·57	1·25	0·81	1·01	0·94
„ 5 „ 10 „ ....	0·35	3·14	2·13	1·36	3·54	2·70
„ 10 „ 15 „ ....	2·42	5·88	4·63	2·44	3·04	2·80
„ 15 „ 20 „ ....	9·00	15·88	13·39	10·30	14·17	12·68
„ 20 „ 25 „ ....	11·42	16·86	14·89	11·11	10·29	10·60
„ 25 „ 30 „ ....	13·15	11·18	11·89	12·47	11·80	12·06
„ 30 „ 35 „ ....	13·49	10·59	11·64	10·57	9·27	9·77
„ 35 „ 40 „ ....	12·11	8·82	10·01	11·92	9·95	10·71
„ 40 „ 45 „ ....	11·42	5·10	7·38	8·67	7·42	7·90
„ 45 „ 50 „ ....	6·23	3·92	4·76	3·79	6·58	5·51
„ 50 „ 55 „ ....	3·11	2·55	2·75	4·06	4·22	4·16
„ 55 „ 60 „ ....	2·77	1·96	2·25	2·44	3·37	3·01
„ 60 „ 65 „ ....	1·73	1·76	1·75	2·17	2·19	2·19
„ 65 „ 70 „ ....	....	....	....	1·90	1·18	1·46
„ 70 „ 75 „ ....	0·35	0·59	0·50	0·27	0·67	0·52
„ 75 „ 80 „ ....	....	0·20	0·13	0·27	0·67	0·52
„ 80 „ 85 „ ....	....	....	....	....	0·51	0·31
„ 85 „ 90 „ ....	....	....	....	....	....	....
„ 90 „ 95 „ ....	....	....	....	....	0·17	0·10
Unknown age .....	10·38	4·90	6·88	12·74	6·41	8·84
Totals.....	100·00	100·00	100·00	100·00	100·00	100·00

2. To give a more concise view of the matter, the data of the preceding table have been contracted into a narrower space in the following table, to which is added a table with the results gained by the inquiry of 1845.



TABLE XIV.  
*Recapitulation.—Ages at which the Malady first appeared.*

	In the Duchies.			In Denmark.					
	1845.			1845.			1847.		
	Males.	Fem.	Total.	Males.	Fem.	Total.	Males.	Fem.	Total.
Before the 30th year .....	55·24	46·64	50·94	51·91	49·81	50·61	51·95	45·00	48·48
From 30 to 50 years .....	32·69	37·10	34·89	35·39	31·39	33·39	33·79	33·89	33·84
Above 50 and unknown...	12·07	16·26	14·17	12·70	19·30	16·00	14·26	21·11	17·68
Totals .....	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00

It may reasonably be supposed, that lunatics, the duration of whose disease was not to be found out, had generally been affected for a very long time; if, therefore, we subtract the unknown from those that have been affected at an age above 50 years, and add them to those that have been affected before the 30th year, we shall come somewhat nearer the truth. This operation performed, we get the following proportions:—

TABLE XV.  
*Rectified Recapitulation.*

	In the Duchies.	In Denmark.	
	Males and Females.	Males and Females.	
	1845.	1845.	1847.
Before 30 years, and } age unknown..... }	54·17	54·88	56·33
From 30 to 50.....	34·89	33·39	33·84
Above 50.....	10·94	11·73	9·83
Totals .....	100·00	100·00	100·00

VIII.—*Of the Complications.*

1. The complications of the mental maladies not having been always clearly designated, they cannot, for the most part, take a place in our tables. However, 660 cases of complication, of which several have been met with simultaneously in the same individual, have been stated exactly enough for us to comprise them in the following table.

It is to be observed, that the goitre being of very rare occurrence in Denmark, it has not been noticed as a complication. In the countries where goitre is endemical, one was disposed to confound it with cretinism; but the Sardinian Commission having shown that only the third part of the cretins were affected with goitre, the error commences to wear away.

TABLE XVI.—Complications.

	Men.										Women.										Totals.			
	Blindness.	Deaf and Dumbness.	Deafness.	Epilepsy.	Spasms.	Crippled State.	Contraction of the Members.	Paralysis.	Emuresis.	Water on the Brain.	Sickly.	Total.	Blindness.	Deaf and Dumbness.	Deafness.	Epilepsy.	Spasms.	Crippled State.	Contraction of the Members.	Paralysis.		Emuresis.	Water on the Brain.	Sickly.
Amt of Copenhagen	1	2	...	17	5	1	...	3	...	1	...	30	...	...	...	7	8	3	...	...	...	...	...	18
" Frederiks- } borg.....	3	5	1	9	...	2	...	1	...	...	...	21	...	2	3	7	...	4	...	...	...	...	...	16
" Holbeck .....	1	7	1	7	2	5	...	5	...	1	...	29	...	2	2	4	...	1	...	1	...	...	1	40
" Sorø .....	...	...	...	6	1	3	...	3	...	1	...	15	...	1	...	3	5	...	...	...	...	...	...	24
" Præsto .....	1	7	2	5	3	1	3	2	1	...	...	27	1	1	...	5	2	...	1	...	...	...	...	37
" Bornholm.....	...	1	...	1	...	2	1	1	...	...	...	7	...	1	...	1	...	1	...	...	...	...	1	11
" Færø .....	...	1	...	1	...	...	...	...	...	...	...	2	...	1	...	...	...	...	...	...	...	...	1	3
" Maribo .....	1	4	1	7	2	2	...	2	...	...	...	19	...	4	1	3	2	1	...	...	1	...	...	32
1st Division .....	7	27	5	53	13	16	4	17	1	3	...	150	2	12	6	30	17	10	1	1	1	...	2	232
Amt of Odense .....	...	3	...	8	2	4	...	...	...	...	...	17	1	4	...	6	1	1	2	2	...	...	1	18
" Svendborg.....	1	15	...	10	...	6	1	2	1	...	...	36	1	7	...	9	2	2	2	1	...	...	2	26
2nd Division .....	1	18	...	18	2	10	1	2	1	...	...	53	2	11	...	15	3	3	4	3	...	...	3	44
Amt of Hjöring .....	1	1	...	8	2	1	...	2	...	...	...	16	...	3	...	8	2	3	2	3	1	...	2	24
" Thisted .....	...	6	...	9	1	...	...	1	1	1	...	21	1	1	...	8	...	1	...	...	...	1	...	14
" Aalborg .....	4	3	...	5	...	2	...	...	1	...	...	17	1	1	1	11	1	2	...	2	...	1	...	21
" Viborg .....	...	5	2	2	...	...	...	1	...	...	...	10	...	2	...	3	...	1	1	...	...	...	1	8
" Randers .....	1	4	...	6	...	2	...	...	...	...	...	13	2	5	1	3	...	5	...	...	...	...	...	16
" Aarhus .....	1	4	...	1	...	2	...	...	...	...	...	8	1	1	1	...	...	2	...	1	...	...	...	5
" Skanderborg .....	...	4	...	6	...	2	...	2	...	...	...	14	1	3	1	4	1	2	...	1	...	...	2	15
" Veile .....	1	11	...	10	...	4	1	2	1	...	...	30	...	7	...	10	2	1	2	1	...	...	...	23
" Ringkjøbing .....	5	3	1	9	...	5	1	...	...	...	...	24	1	6	...	4	1	1	...	1	1	...	...	15
" Ribe .....	1	3	...	9	1	2	...	2	...	...	...	20	...	2	...	10	...	1	...	1	...	...	3	17
3rd Division .....	14	44	3	65	4	18	2	10	3	1	...	173	7	31	3	61	7	19	5	10	2	2	...	158
Whole of Denmark	22	89	8	136	19	44	7	29	5	4	...	376	11	54	9	106	27	32	10	14	3	2	...	284



IX.—*Of the Causes of the Disease.*

1. The reports rarely contained any notice about the general causes which ordinarily lead to mental derangement; or if they did, it was for the most part of some special causes, of which we shall give an account in their proper place. But we think that it is not the province of such a work as the present to treat of special causes, and, for such, we must rely on those professional men who treat specially this sort of patients.

There are some general causes, however, which will hardly be found mentioned anywhere, except, perhaps, in those works which are the result of information taken upon the totality of sick persons in a whole people.

We produce, first of all, the result of our researches directed to some of the general causes; and afterwards we add a table which will comprise what has been reported on the special ones.

2. *The Soil.*—We have not proposed to scrutinize all the properties of the soil and their influence on the disease, but there are some which have attracted our attention; we will mention particularly the fertility and sterility, the cohesion of the particles of the soil, &c.

The principal geological formation of Denmark are the lignite formation, the boulder sand, and the boulder clay. After these, it is the lime and chalk which are of the greatest extent.

It will not be without interest to trace the influence which these telluric bases exert upon the economy of human life. Let us, then, first see the influence of the soil upon the density of the population.

The fertile land of boulder clay, rendered still more fecund by detached fragments of lime and chalk in the strata, which is found in the Danish Isles, and on the coast of the east of Jutland, occasions a much denser population than the other geological formations.

Thus, in the islands of Seeland and Funen, &c., there are to be found from 2,500 to above 4,000 inhabitants on the square mile\* (in Jutland, only from 700 to near 3,000 on the square mile). The average number for the islands was 3,312, for Jutland 1,289, on the square mile. But, if we consider this distribution of the population in relation to the disease, we find idiots and lunatics among the dense population of the islands in the proportion of 2 to 3 in 1,000 inhabitants; but among the scattered population of Jutland, we find them in a proportion of 3 to 5.

It is thus reasonable to suppose, that the fertility or sterility of the soil, and the more or less dense population, may be reckoned for something among the causes of the disease. Another property to be taken into consideration, is the cohesion of the particles of the soil. The particles of the clay, be it humid or dry, are very compact; the particles of the sandy soil are, on the contrary, very loose, whence result very different effects.

In those parts of the country where the surface and strata contain clay only, the moisture finds no issue; and the inhabitants will always, during the wet season, which is considerably protracted in Denmark, find themselves surrounded with a moist, and consequently cold atmo-

\* The Danish mile is nearly five English miles.

sphere. On the other hand, on the sandy parts, moisture finding everywhere an outlet, the inhabitants will have a proportionably dry and warm atmosphere. The influence of these different qualities of the soil is very remarkable; thus, on the clayey territories we find the highest and the lowest proportions of insane persons, though their average number be a moderate one; but, on the sandy grounds, the proportions are everywhere moderate.

Two districts, taken in this point of view, must fix our attention particularly. They are, the isle of Laland, in the Baltic Sea, and the Herred of Vandfuld, on the north-west coast of Jutland. The soil of these two countries offers clay as well on the surface as in the strata. Thus, they have both similar geological conditions, only that the island is flat, whilst the surface of the Herred is hilly.

Among the inhabitants of the island, the lowest proportions have always been found, rarely rising even to 2 in 1,000, whereas the highest proportion of 6 in 1,000 has been met with in the Herred. But, on the other hand, the inhabitants of the island are affected with intermittent and remittent fevers, from which the inhabitants of the Herred are, as far as I know, exempt. The geological properties being nearly the same, the difference in the morbid conditions of these two districts must be attributed to other causes, and doubtless, in a great degree, to the climate.

3. *The Climate.*—Till now, it has been a generally received opinion, grounded on the faith of several writers, that mental derangement was less frequent in the south of Europe than in the north. For Italy and Spain, the very low numbers 0·2 persons in 1,000 have been quoted, whilst the censuses in the northern countries have given from 1 to 3 or 4 in 1,000. But the modes of life, the education, the civil and political institutions, the religion, the manners, in short, the northern and southern people are so different, that we should be quite at a loss to what cause to attribute the enormous difference of the numbers, if we did not take the trouble to examine the statistical facts of the different countries.

The report of the Sardinian Commission shows, that the greatest number of cretins and idiots was found principally towards the north and north-west parts of the country; and from our own information, taken upon the spot, the highest proportions were to be found rather often upon the declivity of the mountains towards the north.

Mr. Verga, of Milan, has himself declared to us, that when he, some years ago, examined the Valteline, he found there also the greatest number of cretins on the northern declivities of the mountains.

During my abode in Sion, in the Valais, a medical man having cited different facts for the Upper Valais, I have been myself to Loèche-les-Bains to see Dr. Mengis of Vïeges, who has examined the Upper Valais with the greatest care. He has shown me on a map, valleys on the southern declivities of the mountains (on the right-hand shore of the Rhone), sheltered from the north winds, where were no cretins to be found; and, on the opposite side, the side exposed to the north wind, were numerous cretins.

As to Switzerland in general, the results are not very clear, as the deaf and dumb are comprised in the census.

Mr. Rösch has furnished us with numbers clearly enough determined



for the kingdom of Wurtemberg; we have made from them the following calculation. There is to be found in

The Donau Kreis (S.E.).....	1.19	in 1,000 inhabitants.
The Schwarzwald Kreis (S.W.) .....	3.57	„
The Neckar Kreis (N.W.) .....	5.71	„
The Jaxt Kreis (N.E.) .....	6.94	„

For the grand duchy of Baden, we will cite what we have learned at Carlsruhe and Illenau. On a population of 1,362,774 inhabitants in 1850, there were found 2,434 cretins, idiots, and lunatics, out of the great establishments; and, among this number, 522 were cretins. The number of the insane in the asylums reaching to 600 individuals, makes a total of 3,054. If, besides, we take the above-mentioned 600 patients in the great asylums, in proportion to the patients declared at large, we obtain the following numbers:—

The See Kreis .....	2.0	in 1,000 inhabitants.
The Ober Rhein Kreis .....	2.9	„
The Mittel Rhein Kreis.....	1.9	„
The Unter Rhein Kreis.....	2.0	„

In Baden, the inexactitude of the reports was complained of; and, in comparing the proportions of the Ober Rhein Kreis of the grand duchy of Baden with those of the contiguous Schwarzwald Kreis, in Wurtemberg, we recognize easily, that the researches in these two provinces have been based on different principles. Even the insignificant number of cretins in the grand duchy of Baden carries suspicion with it.

Some years since I read a paper on the statistics of mental disease in Holland, by Schroder van der Kolck, at Utrecht, which I have not before my eyes at present; but I recollect that this author stated, that also in Holland a larger proportion of insane persons were found in the northern provinces.

As regards England, we know the number of the insane in the different counties only by the number of those maintained at the public expense. When we find about 1 in 1,000 for all England, the number in the north and north-west of Wales will be 2 in 1,000. We have found in certain authors the following numbers:—Ireland, 1; England,  $1\frac{1}{2}$ ; Scotland, 2 patients in 1,000 inhabitants.

On a recent visit to Edinburgh, the author had some very valuable information on this subject from the Board of Supervision for Relief of the Poor. Members of the Board, on that occasion, declared that they were informed, that at the Shetland and Orkney Islands, and on the north-western shore of Scotland, the proportions of insane and fatuous persons were much higher than in the rest of the country. This is not always to be gleaned from their own returns, because of the general low state of fortune, or rather, perhaps, universal poverty of these districts.

Lastly, let us see what has been found in Denmark. As elsewhere, so in this county, the highest proportions were found principally on the north and north-western frontiers. In setting out from the point where the population is the lowest (the island of Lolland, in the Baltic), we find it gradually increasing towards the above-named region, and at last attaining the maximum in the north and north-west.

One glance at the groups formed by the patients in the families and parishes of the western regions, will convince us immediately of the greater frequency of mental derangement. Out of the 900 parishes under question in this paper, 605 did not exceed the proportion of 5 in 1,000; in 295 it was higher. Below is the distribution by the divisions:—

*Parishes containing Idiots and Lunatics.*

Divisions.	Below 5 in 1,000.	5 in 1,000.	6 in 1,000.	7 in 1,000.	8 in 1,000.	9 in 1,000.	10 in 1,000.	Above 10 in 1,000.	Total.
Seeland and Loland—									
Falster .....	223	39	9	9	10	3	3	2	298
Funen .....	84	17	5	4	1	2	....	1	114
Jutland .....	298	64	45	21	19	10	12	19	488
Denmark .....	605	120	59	34	30	15	15	22	900

A calculation based upon these numbers gives the following proportions:—

	Parishes having below 5 in 1,000.	Parishes having above 5 in 1,000.
Seeland .....	74·8 in 100	25·2 in 100
Funen .....	73·7 „	26·3 „
Jutland .....	61·1 „	38·9 „

If, in Jutland, we compare the eastern with the western part, we have parishes having,

	Below 5 in 1,000.	Above 5 in 1,000.
Eastern part, the Amts of Aalborg, Randers, Aarhus, Skanderborg, and Veile .....	66·3 in 100	33·7 in 100
Western part, the Amts of Thisted, Ringkjö- bing, and Ribe .....	52·9 „	47·1 „

In the Fœroe islands, the number of the patients in the southern isles was not large; but in the northern ones it was rather considerable. In 1848, the authorities of these islands caused a new inquiry to be made; and the result was, 9·29 in 1,000 for the islands in general, and 12·5 in 1,000 for the northern isles in particular\*. In

\* The number of idiots and lunatics in the Fœroe islands was, in 1847, 48, to which must be added 22, who suffered under a periodical mental derangement, but who, at the time of the inquiry, were of sound mind. In 1848, 70 were found, but it is probable that this number comprises those affected with a periodical mental derangement, whether the paroxysm was present or not.



examining closer, we find denser groups and higher proportions in those parts which face the north and west, and more scattered groups and lower proportions in those parts which are sheltered from the north and west by hills.

To make this clearer, we will quote some Herreds or districts that are sheltered, and others that are not.

Sheltered Herreds.		Neighbouring Herreds that are not Sheltered.	
West Herred, Bornholm....	1 in 1,000	North Herred, Bornholm ...	5 in 1,000
Alsted, Seeland .....	1 „	Mehrlöse, Seeland .....	3 „
Framlev, Jutland .....	1 „	Sabro, Jutland.....	5 „
Rougsö .....	1 „	North Hald .....	5 „
Gierlev.....	1 „	Onsild .....	3 „
Slet .....	1 „	{ West Han.....	5 „
		{ East Han.....	3 „
Hindborg.....	1 „	North .....	4 „
Skads .....	2 „	{ West Horne.....	5 „
		{ East Horne .....	4 „

In this manner, to come from the Herred, in which the lowest proportions are, to that with the highest proportions, we have only to pass the hills that separate them.

But, if the sheltered places facing the south prove unfavourable to the procreation and propagation of the disease, they, perhaps, would be those that should have the greatest influence to make it disappear. If we are right in this supposition, the said places should be preferred for establishments intended for the cure of deranged persons.

4. *Nationality*.—In seeking for the causes of the disease in the nationality, we are exposed to fall into the error of attributing to nationality that which has taken its origin in the climate, or in some other cause. But it should always be remembered, that neither the nationality nor any other cause is quite absolute; so that we always have to weigh the influence of more than one cause at a time.

The following statements may be taken as chiefly regarding the nationality:—

According to a little article published in the *Annales Médico-Psychologiques*, the disease is of rather rare occurrence in China. Dr. Williams, who has been a resident in China for twelve years, has observed two cases of lunacy only, and another English or American medical gentleman, has seen idiots and epileptics, but no lunatics. They ascribe the less frequency of the disease in China to the sobriety of the Chinese, and to the circumstance of this people being less under the influence of the febrile excitation of the Europeans and Americans.

It, however, should not be thought astonishing, in a country so well governed as is that of China, that we do not find sick persons of this description strolling about in public, and, consequently, that foreigners do not meet with them. As for the cause, perhaps the Chinese do not make use quite as freely of spirituous liquors as do some of the peoples of the west; yet they indulge in considerable quantities of pretty strong rice wine, and a great number are opium-eaters.

But, if the Chinese people is a peaceable and patient one, not

labouring under the fearful excitation of the peoples of the west, this certainly may be thought the very best preservation against the disease in question.

In Thibet, the disease is said to be of the same rare occurrence.

In the East Indies the disease is rather frequent; and on the coast of Coromandel, cases of imbecility and dementia are often met with.

In the west of Asia, lunacy was found even in ancient times; and in Palestine, lunatic asylums have existed for centuries. In Smyrna, there has been numbered 1 insane person in 1,000 in the Greek population.

As for Europe, we have already, in speaking of the climate, noticed the proportions of deranged persons among some nations; and though the difference may be attributed to the climate in some measure, it may be attributed, at least in part, to the nationality. I have recently examined a good part of the lower class in Switzerland, Lombardy, Piedmont, Savoy, &c. I seldom found the high stature of the Gotho-German races; but in many places the physiognomy, the blue eyes, the light or brown hair of these races, and the fair complexion, is not rare even among people of the higher classes.

In Denmark, by the research of 1845, persons labouring under occasional fits of insanity, having been probably comprised in the number, no matter whether they were in the paroxysms or not, the proportions were very high; but it is curious to see how they go on increasing towards the north and the west. The average being 3·16 idiots and lunatics in 1,000 inhabitants, there was found in Lanenbourg 1·82, in Holstein 2·22, in Sleswick 2·93, in Jutland 3·32, in Loland Falster 2·25, in Bornholm 2·77, in Seeland and Möen 3·11, and in Funen 3·17 in 1,000.

The population of Denmark is, for the greatest part, of Gotho-German origin; but on the islands of the Baltic, in the south of Bornholm and of Seeland, there are to be found traces of the Vendic or Slavonians, probably descendants of the colonists that were established here in the 12th century, and it is worth noticing that it is among this population we find the lowest proportions.

But, pursuing our examination towards the north, we find that in Norway, according to the public records of 1845, the average number was 3·23 idiots and lunatics in 1,000 inhabitants; but there is a very great difference in the proportions of the south and the north of this country.

In the south, the highest proportions are found in the Amt of Mandal, having 5·18 in 1,000, and from this, the southernmost of the Amts of Norway, the proportions gradually go on decreasing towards the north. Thus we find, in the Amt of Nedenäas and Robygdelagen 4·44, Budskernds 4·59, Christians 3·71, Romsdals 2·60, Nordlands 2·47, and in the northernmost Amt, that of Finnmarken, we find the lowest proportions, 2·06.

Perhaps some of our readers may think, that these statements may subvert the thesis we have taken upon ourselves to defend, namely, that the climate of the north and the west has a tendency to augment the proportions of insane persons; but in Norway itself, it is not difficult to find an explanation of this fact. The country of Norway is mountainous, perhaps more so than even Savoy; and the



Amt of Mandal is, if we are well informed, one of the poorest of the Norwegian provinces. But chiefly it must be considered, that the Amts in which the proportions are decreasing under the average number are inhabited by a population quite different, not only from that of Norway, but even of Europe, viz., the Finns and Laplanders, who, only among the Hungarians and Turks, will find some traces of consanguinity. After all, it is not astonishing to find few cases of mental disease among a people of frugal and peaceable herdsmen. It must also be observed, that these same Finns and Laplanders, only during the summer, live on the northern and western declivities of the mountains: in the rude season of autumn and winter, they inhabit the southern declivities.

The statistics of the United States of North America being not very clear, the statements are but little satisfactory. According to the *Journal of Insanity* of 1849 (vol. I.), the proportion of insane persons is 2 in 1,000.

Tanner, who lived thirty years among the Indians of North-western America, relates cases of insanity occasionally occurring, and he states that the disease is caused by hunger, from which several times every winter these poor savages suffer. Captain Franklin observed the goitre and idiotism among the inhabitants of the fortress of Edmonton, in North-western America, but finding that only the females and the children, who constantly reside in the fortress, and make use of the water of the river Saskatchewan, are affected with these diseases, and that the men, who spend the greatest part of their time in hunting and travelling, making use of snow water, are free from attacks of the said diseases, he ascribes as well the goitre as the idiotism, to the water of the river.

Amongst the Esquimaux population of Greenland, idiotism and most probably lunacy are found, but statistical facts are wanting. If, however, cases of these diseases are rarely met with, it is, perhaps, because the Greenlanders know how to get rid of troublesome persons. A government officer has related the following case. A native woman of Greenland having an idiot son, she patiently waited till the boy had reached his twelfth year, but, as she observed that his understanding did not make progress of development, she caused an excavation to be made in the earth, and putting the idiot at the bottom, she had the hole filled with earth, so that the boy was interred alive. Another officer has stated that the Greenlanders generally kill their lunatics, and even those who, during the course of a fever are, delirious. The Christian Greenlanders having delirious patients, and not venturing to kill a fellow-being, call in an Angekok (priest or sorcerer) from the heathen tribes, to make away with the sick person. Also, it rather frequently happens, that Greenlanders falling into melancholy and despair, leave their homes, and their families, and taking their way into the interior deserts of the mountains, never return.

Resuming then what we have stated on the nationality, we find the disease everywhere, but in different degrees; and, as it seems, the greatest number of sick persons of this description is to be found among the peoples of the Gotho-German race, with proportions gradually increasing towards the north.

It is the inhabitants of the Alps, of Germany, of Scotland, of Denmark, of Norway, and of the United States of North America, who

present the highest proportions, and the number goes on gradually increasing towards the north, until the disease reaches in the high north, a people less susceptible to its attacks, viz., the Finns and Laplanders.

When the disease makes its aggressions in various degrees among a people of one and the same country, and of one and the same nationality, with no other difference between the inhabitants than this, that one part lives on the south, the other on the north side of a range of mountains, we are justified in seeking the cause of the dissimilar proportions rather in the climate than in the nationality. But, if we find the invasion of the disease varying in degrees, in a country inhabited by two quite different nations, we are, I think, right in searching for the cause of this diversity in the nationality, rather than in the climate. Thus, the climate and the nationality seem to dispute with each other the preference among the causes of the disease.

It is unnecessary, perhaps, to observe, that if we attribute some influence in the producing of mental derangement to the climate, it is not in the heat or cold only that we seek for the cause of the greater or less proportions of insane persons, but we seek the said causes in the diversity of the vegetation, the different habits and manners of life of the inhabitants, in short, we seek for them in the different topographical properties, of the two distinct sides of the terrestrial elevations, which, in their exterior, clearly enough show the different influence of the climate.

5. *Education.*—It is well known, that he who has a true sense of his relations to God, to man, and to himself, who moreover modestly remembers his own frailty, and is not wanting in indulgence towards that of others, will go through life with a steadier pace than he who finds himself in an opposite position. Still more, we know that education is one of the most efficacious remedies in lunacy, and even in the beginning of cretinism and idiotism. If this be true, imperfect education must be reckoned among the causes of the disease.

In Denmark, the idiots and lunatics are most numerous in those provinces that are most distant from the centre of civilization, where the education is most neglected, or most imperfect, because of the sterility of the soil, the poverty of the inhabitants, perhaps, also, because of the poverty of those persons that have to watch over the education, and almost the same is to be found among the other people of Gotho-German race. Everywhere we find the greatest accumulation of persons of unsound mind, in those countries and in those provinces that are most distant from the different centres of civilization, as, for instance, in Norway, the isles of Fœroe, the Alps of Italy, and where the schools are of new date, or rather scattered and little frequented.

It is true civilization that saves, but the false one that ruins man.

6. *Circulation in the Population.*—It is rare in Denmark, that the business and professions are transmitted in a long line in the same family; after two or three generations they grow tired of the same sort of life, and at last they become enfeebled. When this happens, they are obliged to make way for immigrants from the Duchies or from foreign countries, who, being in possession of capital or talent, for the most part fix their abode in the great towns or fertile pro-



vinces. Those that have lost their situation are obliged to emigrate or spread themselves over the sterile provinces; and this is what happens the most frequently in Denmark, the emigration not being frequent enough there. In spreading themselves over the provinces of the north and west, they, in their turn, dislodge other individuals, who then go either among the inhabitants of the Duchies, or into foreign lands, to seek their future subsistence, by the help of their robust arms.

Thus, there exist always two currents in the population, one of immigrants, who come to the great centres of population to turn to account their spirit, their knowledge, their manners, and their civilization; the other composed of such as have at their command only their physical strength and their youthful inexperience. One of the currents flows from the south to the north, and from the east to the west, fulfilling in the body of the state the arterial functions, and the other from the north to the south and from the west to the east, fulfilling the venous functions. After some generations, the individuals who constituted the arterial current becoming enfeebled, give way, and spread themselves into the venous current, as their predecessors before them, whilst those composing the venous current, ameliorated by hardships and labour, in short arterialized anew, go to increase the arterial current in Denmark, or in another country. These two currents are easily to be shown in Denmark, for some centuries, as we have done in our treatise on this subject,\* and undoubtedly the same thing is to be observed in other countries.

If, then, the patients are accumulated in a greater number in the sterile or less fertile provinces, it is certainly because a great number of their inhabitants are displaced individuals, half overcome, and who are then doubtless much more apt to fall under the influence of the disease.

7. *Poverty*.—If riches will not shelter men from sickness, poverty, whatever be its form, exposes them more directly to its attacks. When the physical and moral strength is enfeebled, then comes poverty, and with it, too often the disease. In the fertile provinces much labour is necessary for gaining a livelihood, but that labour is not without a certain recompense; but in the sterile provinces a much greater amount of labour is required, and it is but too often badly requited, or even fruitless. Labour, well recompensed, strengthens both the body and the mind; whereas a fruitless toil exhausts these two elements of human life.

In the provinces of the west of Denmark, the inhabitants, whose minds are but little developed, struggling against an arid soil and inclement climate, are overloaded with toil and care; and naturally their physical and mental powers are more rapidly exhausted. And it is just in these provinces that we find the greatest poverty, and the greatest number of patients. It is not possible always to judge of the actual state of the provinces in this respect after the official reports of

\* J. R. Hübertz om Bevægelsen iden danske Befolkning, (on the Movement of the Danish Population,) Copenhagen, 1840. Translated in Falk's Archiv. vol. i., Hamburg, 1844, under the title *Über die Bewegung in der dänischen Bevölkerung*, (on the Movement of the Danish Population).

the assistance given to them, because the public benevolence is extended in proportion to the wealth of the country. Private benevolence, on the contrary, restrains its resources in the rich provinces, and augments them in the poor ones, where there are even to be found parishes without any established public assistance, on account of the general indigence of the inhabitants.

However, the public tables are not without interest; and they show, to a certain degree, that poverty and mental diseases go oftentimes hand in hand. If the Loland Falster (Amt of Maribo), one of the most fertile and richest provinces, has many relieved persons, it is probably because the public charity is exercised there on a larger basis than elsewhere.

*The Number of Persons Relieved in 1,000 Inhabitants during the Years 1837, 1845, and 1850.*

Amts, &c.	1837.	1845.	1850.*
Town of Copenhagen .....	....	....	20
Amt and Town of Copenhagen.....	130·00	33·49	} 23 to 24
"    Frederiksborg ....	34·08	21·38	
"    Holbek .....	31·11	21·59	
"    Sarö.....	38·66	25·42	
"    Præsto.....	34·70	30·56	
"    Barnholm .....	24·75	19·51	18
"    Maribo .....	41·23	32·73	29
"    Odense .....	47·16	27·89	} 22
"    Svendborg .....	31·49	25·42	
"    Hjörning .....	31·97	27·23	23
"    Thisted .....	54·81	43·22	32
"    Aalborg .....	44·24	30·90	26
"    Viborg.....	30·73	23·22	17
"    Randers .....	37·20	29·81	22
"    Aarhus .....	37·53	21·81	17
"    Skanderborg ....	31·79	23·22	15
"    Veile .....	25·86	19·31	16
"    Ringkjöbing ....	46·36	34·71	27
"    Ribe.....	38·83	27·69	22
Denmark—Average .....	50·92	28·04	23

\* We have calculated ourselves the first two columns, the last is copied from a public work.

8. *The Sexual Relations.*—Love always figuring among the causes of insanity, it will easily be thought necessary not to pass the intercourse between the two sexes in silence.

That marriage has not been destined to all adult persons, Providence itself has indicated, through the inequality of the distribution of the sexes, and the still greater inequality of the distribution of food, the necessary foundation of domestic economy. It also should be borne in mind, that science, the arts, and other business, sometimes will exact the whole of the bodily and mental power of the man; domestic duties all the care of the woman, without leaving them



the leisure, or giving them the means that would enable them to think of marriage.

The distribution of the sexes seems to be regulated after that of the food. From the provinces with an unfertile soil, where the capital is small, and labour ill-paid, young men, sensible of their strength, will go into the more fertile provinces to seek a better remuneration for their labour. Women, certainly, will follow the same course; but not having the same facility of travelling, and afterwards of finding work, a great part will be obliged to stay in their native parishes. This is, if we are right, the cause of the predominance of the females in the poorer provinces; as, for instance, at Bornholm, in Jutland, &c., of the males in fertile ones. In the *amts*, the difference of the sexes, in 1845, reached to 4 in 100; but in the *herreds*, or lesser districts, and in the parishes, the difference attained even 15 and 20 in 100.

The individuals of the two sexes, not finding themselves in equal number, marriages of course must vary. At Bornholm, in the isles of Fœroe, and in Jutland, there were found 320 or 330 married women in 1,000 females; but in Seeland, the number reached 342 in 1,000 females. In Iceland 277, and in Norway 273, in the towns, and 313 women in the country, in 1,000 females, were married.

From these statements, it would seem to result, that frequent marriages, and frequent cases of mental disease, are found in inverse proportions. It must be owned, however, that, at Funen, only 317 women, and in the duchy of Lanenberg even but 310, in 1,000 females were married without a notable increase in the proportions of the insane. In the last named provinces, a free intercourse between the sexes replaces marriage; but, as connexions of this sort are devoid of the harmony and tranquillity of marriage, they are not able to exercise the same salutary effects on the mind. It, perhaps, therefore, would seem strange to find the disease so little influenced by the less frequency of marriage; yet we must recollect, that the sexual relations are only to be reckoned among the causes of the disease, to an extent not as yet actually defined; and, that what is wanting may be supplied through means that are yet to be found out.

It is generally admitted, that the widowed state is one of the causes of insanity, but opinions vary as to its influence on the two sexes. The Table III has been made chiefly with a view of finding out the exact proportion on this subject. In some *amts*, the widowers suffered more from the disease than the widows; in others the proportions were found in the contrary sense; but, on the whole, in Denmark, the proportions for both sexes were nearly the same, with a slight increase on the female side. We adduce the proportions of married, unmarried, and widowed lunatics in two of the most distant *amts*, viz., Copenhagen and Ribe, and afterwards in Denmark and the Duchies, and for further comparison we add the proportions for 1845.

Happy marriages certainly preserve from many evils; but disastrous unions, to all the other torments, add the disease of insanity. A little table at the end of this chapter will show the number of cases in which the disease was attributed to unhappy unions; and another will contain the number of persons of unsound mind divorced.

*Lunatics Married, Unmarried, and Widowed, in 1,000 Inhabitants, respectively, in the Amts of Copenhagen and of Ribe, as well as in Denmark and the Duchies, &c.*

Amts, &c.	1845.		1847.	
	Males.	Females.	Males.	Females.
<i>Amt of Copenhagen—</i>				
Married .....	1·64	1·60	1·29	1·42
Unmarried.....	2·30	3·20	2·15	3·02
Widowed .....	1·57	3·00	4·80	3·26
<i>Amt of Ribe (Jutland)—</i>				
Married .....	0·91	1·21	0·69	1·97
Unmarried.....	1·67	1·24	1·63	1·71
Widowed .....	5·62	3·65	1·83	3·56
<i>Denmark—</i>				
Married .....	0·69	0·99	0·59	0·82
Unmarried.....	1·41	1·50	1·35	1·41
Widowed .....	2·71	3·20	3·00	3·02
<i>The Duchies—</i>				
Married .....	0·85	1·07	....	....
Unmarried.....	1·46	1·13	....	....
Widowed .....	2·15	3·07	....	....

*The Cases of the Disease attributed to unhappy Marriages.*

	Males.	Females.	Total.
In Seeland, Lolland-Falster ....	5	14	19
„ Funen .....	1	3	4
„ Jutland .....	3	17	20
Totals .....	9	34	43

*Divorced.*

	Males.	Females.	Total.
In Seeland, &c. ....	9	13	22
„ Funen .....	1	2	3
„ Jutland .....	7	8	15
Totals .....	17	23	40

9. *Abuse of Spirituous Liquors.*—The abuse of strong liquors has always been looked upon as a frequent cause of insanity, but it is very difficult to verify the existence of this cause by general researches. It is very easy to know the quantities of spirits that have paid the duty in a town or in a district; but certain quantities being required for industrial use, and clandestine importation or fabrication being not altogether unfrequent, it is not easy to state how much has been consumed. On the whole, we shall find grounds to bear us out in the assertion, that as long as the evils of the war, 1807—



1814, oppressed the population of Denmark, they generally made pretty free with the use of spirituous liquors, and even abuse of the same was not seldom to be met with; but time having mitigated their sufferings, and rich harvests and a flourishing commerce having enriched the country, an almost universal sobriety succeeded.

The quantity of brandy that had paid the duty in 1845, will be found in the following table:—

Amts.	Litres per Person.	Amts.	Litres per Person.
Amt of Copenhagen .....	22·62	Amt of Aalborg .....	20·34
„ Frederiksborg .....	17·57	„ Viborg .....	9·13
„ Holbek .....	13·61	„ Randers .....	21·56
„ Sorø .....	18·43	„ Aarhus .....	23·86
„ Præstø .....	16·76	„ Skanderborg .....	19·64
„ Maribo .....	19·23	„ Veile .....	14·77
„ Odense .....	18·87	„ Ringkjøbing .....	7·77
„ Svendborg .....	13·86	„ Ribe .....	3·58
„ Hjørring .....	10·10		
„ Thisted .....	12·20	Whole of Denmark .....	16·51

According to the preceding table, the quantity of brandy for which the duty had been paid, and which, probably, had been to a great extent consumed in Jutland, was the same as that of the islands; and if in some *amts* the quantity was less, it most certainly was because of the control being more difficult, and being exercised in a less vigorous manner in these *amts* than in others. Jutland had also other means of procuring the brandy necessary for its consumption.

The fabrication of brandy has been subject to duty in Denmark for a period of about 200 years; but at Bornholm and in the Duchies it was under no control. But the peasants of Jutland having been taught the art of distillation some time before the duty was imposed, a great part of them continued the fabrication in a clandestine way. Thus, a great number of stills were found in the province, and they occasionally were made use of or concealed. The government at times connived at these doings, but now and then it fell upon one or other with heavy fines. At length, in 1843, it was resolved to put an end to these unlawful proceedings; and a general pardon was proclaimed on condition that all the clandestine stills were surrendered to an officer appointed for the purpose, and who was to pay the value in ready money. Of the number of stills in this way surrendered, amounting to some hundreds or thousands, a repartition on the *amts* is made in the following table:—

Amts.	Stills surrendered on 1,000 Families.	Amts.	Stills surrendered on 1,000 Families.
Amt of Hjørring .....	87·36	Amt of Skanderborg .....	108·10
„ Thisted .....	96·85	„ Veile .....	12·51
„ Aalborg .....	126·76	„ Ringkjøbing .....	129·43
„ Viborg .....	47·73	„ Ribe .....	132·29
„ Randers .....	78·58		
„ Aarhus .....	6·18	Whole of Denmark .....	84·26

The brandy fabricated by the said stills was generally of a very bad quality, and for this reason seldom an object of commerce; so that the greatest part was consumed in the houses or the parishes where it was made.

The use of spirituous liquors must thus have been rather great; and it is probable that it has not been without influence on the propagation of the disease. We have yet to learn if the suppression of the furtive distillation will improve the health of the province.

10. The following table contains what has been reported on the special causes.

Causes of the Disease.	Men.	Women.	Total.	Proportion in 1,000.
Effects of age	1	5	6	6.58
Excess of labour	1	2	3	3.29
Hereditary	73	62	135	148.03
Contusions	10	6	16	17.54
Abuse of spirituous liquors	62	15	77	84.43
Abuse of spirituous liquors in the parents	3	7	10	10.96
Debauchery during youth	9	6	15	16.45
Epilepsy	16	32	48	52.63
Chronic maladies	31	43	74	81.14
Acute	18	17	35	38.38
Inflammation of the brain	7	8	15	16.45
Isolation	3	3	6	6.58
Poison	....	2	2	2.12
Accouchement	....	38	38	41.67
Irregularity of menstruation	....	14	14	15.35
Onanism	12	..	12	13.16
Syphilis	1	....	1	1.10
Vices of education	9	12	21	23.02
Grief	5	25	30	32.89
Affections of the mind, more often de- pressing (once the excess of joy in a woman)	51	58	109	119.52
Love	35	102	137	150.22
Anger	2	13	15	16.45
Pride	2	2	4	4.39
Anxiety for a livelihood	22	26	48	52.63
Misunderstood religion	24	12	36	39.47
Frustration of the right of primogeniture	4	1	5	5.48
Totals	401	511	912	1000.00



## MISCELLANEA.

## PROCEEDINGS OF THE STATISTICAL SOCIETY.

*Second Ordinary Meeting. Twentieth Session.**Monday, the 20th day of December, 1852.*

The Right Hon. Lord Overstone, President, in the Chair.

The following gentlemen were elected Fellows of the Society :—

Christian Alhusen, Esq.

Edward Bascome, M.D.

William Bridges, Esq.

Alexander Colvin, Esq.

G. G. Kirby, Esq.

Horace Mann, Esq.

The following Paper was read :—

“On the Relation of the Price of Wheat to the Revenue.” Communicated by Dr. Guy.

*Third Ordinary Meeting.**Monday, the 17th day of January, 1853.*

The Right Hon. Lord Overstone, President, in the Chair.

The following gentlemen were elected Fellows of the Society :—

Jeremiah Lodge, Esq., B.A.

G. G. Macpherson, Esq.

The following Paper was read :—

“On the Income Tax.” By William Farr, Esq., M.D., F.S.S.

*Fourth Ordinary Meeting.**Monday, the 21st day of February, 1853.*

The Right Hon. Lord Overstone, President, in the Chair.

Sir James Emerson Tennent was elected a Fellow of the Society.

The following Paper was read :—

“On Mental Diseases in Denmark.” By Dr. Hübertz, of Copenhagen.

The discussion on Dr. Farr's Paper was renewed.

## THE MARRIAGES, BIRTHS, AND DEATHS,

REGISTERED IN THE DIVISIONS, COUNTIES, AND DISTRICTS OF ENGLAND.

*The Marriages for the Quarter ended December, 1852, and the Births and Deaths for the Quarter ended March, 1853,*

AS PUBLISHED BY AUTHORITY OF THE REGISTRAR-GENERAL.

This return comprises the births and deaths registered by 2,190 registrars in all the districts of England during the Winter quarter ended March 31st, 1853; and the marriages in more than 12,000 churches or chapels, about 3,373 registered places of worship unconnected with the Established Church, and 624 superintendent registrars' offices, in the quarter that ended December 31st, 1852.

The return of marriages is not complete; but the defects are inconsiderable, and approximative numbers have been supplied from the records of previous years.

The marriages in the last quarter, and in the whole of the year 1852, have greatly exceeded in number those of any previous return. But the mortality at the close of the year 1852, as well as in the winter of the present year, has, notwithstanding the activity of trade, been unusually high, through the inclemency of the season, the prevalence of epidemics, and perhaps the partial destruction of the potato crop.

*Marriages, Births, and Deaths, returned in the Years 1841-53 and in the Quarters of those Years.*

YEARS.....	1841	1842	1843	1844	1845	1846	1847	1848	1849	1850*	1851	1852	1853
Marriages .....	122496	118825	123818	132249	143743	145664	135845	138230	141883	152738	153740	158439	...
Births .....	512158	517739	527325	540763	543521	572625	539965	563059	578159	593422	616251	624171	...
Deaths .....	343847	349519	346445	356933	349366	390315	423304	399833	440839	368986	395933	407938	...
MARRIAGES.													
Quarters ended the last day of													
March .....	24447	25860	25285	26387	29551	31417	27480	28398	28429	30567	32619	32933	...
June .....	32551	30048	31113	34268	35300	37111	35197	34721	35844	39204	38498	40007	...
September .....	29397	27288	28847	31675	35003	35070	32439	32995	33874	37636	37155	38291	...
December .....	36101	35629	38573	39919	43889	42066	40729	42116	43736	45331	45468	47208	...
BIRTHS.													
March .....	133720	135615	136837	143578	143080	145108	146453	139736	153772	144551	157374	161776	161598
June .....	129884	134096	131279	136941	136853	149450	139072	149760	153693	155865	159138	159136	...
September .....	123568	123296	128161	130078	132369	138718	127173	140359	135223	146911	150584	151193	...
December .....	124686	124732	131048	130166	131219	139349	127267	133204	135471	146095	149155	152066	...
DEATHS.													
March .....	99069	96314	94926	101024	104664	89484	119672	120032	105870	98418	105446	106682	118241
June .....	86134	86538	87234	85337	89149	90231	106718	99727	102153	92875	99639	100813	...
September .....	75440	82339	76792	79708	74872	101663	93435	87638	135227	85846	91600	100497	...
December .....	83204	84328	87493	90864	80681	108937	103479	92436	97589	91847	99248	99946	...

\* The numbers up to 1850 have appeared in the Annual Reports.

**MARRIAGES.**—94,416 persons were married in the last quarter of the year 1852, the three months after harvest, the Christmas quarter, in which, according to the customs of England, the greatest number of weddings are celebrated. This number, however, exceeds the numbers in the corresponding quarter of any previous year; and if the whole year is taken, it shows a proportional excess. There were 158,439 marriages in the year 1852, 153,740 in 1851, and, only ten years ago, 118,825 in the year 1842. The marriages in the five years 1838–42 were 605,219, in the five years 1848–52 they were 745,030. The marriages in England from 1843 to 1852 were at such a rate that 1 in 60 people married annually; the proportion in 1852 was 1 in 57; while in the last quarter of the year 1852 it was 1 in 48. The increase is greatest in London, where 7,101 marriages took place in the last quarter of 1852. The increase in the other divisions is less remarkable; and in the South Midland, as well as the Eastern Counties, the rate of marriages was below the average.

**BIRTHS.**—161,598 births were registered in the quarter ended March 31st, 1853. The number is slightly less than the number registered in the corresponding quarter of the year 1852, but in excess of the number registered in the winters of any previous years. The greatest number of births is registered generally in the spring, but in 1852 it happened exceptionally that the births in the winter exceeded the births in the spring quarter. The annual proportion of births since 1843 has been 1 in 30; in the winter quarter the average rate is 1 in 29; in the winter quarter of the present year it has been 1 in 28.

**INCREASE OF POPULATION.**—As the births registered in the winter quarter were 161,598, and the deaths 118,241, the natural increase of which we have an account is 43,357. The natural increase of population, owing to the high rate of mortality, is less than usual, and less by 12,000 than it was in the winter quarter of 1852. The tide of emigration still rolls on, and in the winter 57,729 persons left the ports of the United Kingdom at which there are Government Emigration Agents.\* 43,493 emigrants sailed from Liverpool, 7,249 from London, and 2,129 from

\* Return with which the Registrar-General has been favoured by the Emigration Commissioners.



Plymouth; but it must be borne in mind that a large number of the emigrants from Liverpool are Irish, who resort to that port for the convenience of embarkation.

**PRICE OF FOOD.**—The price of provisions has still further advanced; wheat, which in the winter quarter of 1852 was 40s. 10d., is in the present season 45s. 7d.; beef, by the carcase, at Leadenhall and Newgate markets, has risen from 4½d. to 4½d. a pound; mutton, from 4¾d. to 5¾d. a pound; and potatoes (York Regents), which were 70s. in the winter of 1852, are 127s. 6d. a ton in the winter of 1853, a price which, it is to be feared, places this esculent beyond the reach of many poor families. It may be here stated, that the potato cannot be replaced by bread, beans, or pease alone, and that in its absence an extra allowance of fruit, green vegetables, or herbs, is required. Scurvy, in consequence of the neglect of this precaution, prevailed extensively in the spring of the year 1847, after the first great destruction of the potato crop.

*The Average Prices of Consols, of Wheat, Meat, and Potatoes, also the Average Quantity of Wheat sold and imported Weekly, in each of the seven Quarters ended March 31st, 1853.*

Quarters ended	Average Price of Consols.	Average Price of Wheat per Quarter in England and Wales.	Wheat sold in the 290 Cities and Towns in England and Wales making Returns.	Wheat and Wheat Flour entered for Home Consumption at Chief Ports of Great Britain.	Average Prices of Meat per lb. at Leadenhall and Newgate Markets (by the Carcase).		Potatoes (York Regents) per Ton at Waterside Market, Southwark.
			Average Number of Quarters weekly.		Beef.	Mutton.	
1851							
Sept. 30.	96½	40s. 7d.	74,714	91,040	3d.—5d. Mean 4d.	3¾d.—5¾d. Mean 4¾d.	90s.—110s. Mean 100s.
Dec. 31.	97⅞	36s. 7d.	109,506	47,986	3d.—5d. Mean 4d.	3¾d.—5¾d. Mean 4¾d.	65s.—75s. Mean 70s.
1852							
Mar. 31.	97¼	40s. 10d.	95,532	27,540	3¼d.—5d. Mean 4½d.	3¾d.—5¾d. Mean 4¾d.	60s.—80s. Mean 70s.
June 30.	99⅞	40s. 10d.	87,949	54,675	3¼d.—4¾d. Mean 4d.	3¾d.—5½d. Mean 4½d.	85s.—110s. Mean 97s. 6d.
Sept. 30.	100	41s. 2d.	78,712	67,912	3¼d.—5d. Mean 4½d.	4d.—6d. Mean 5d.	80s.—100s. Mean 90s.
Dec. 31.	100⅝	40s. 5d.	111,224	72,870	3d.—5d. Mean 4d.	4¼d.—6¼d. Mean 5¼d.	90s.—120s. Mean 105s.
1853							
Mar. 31.	99⅝	45s. 7d.	95,115	63,530	3¾d.—5¼d. Mean 4½d.	4¾d.—6¾d. Mean 5¾d.	110s.—145s. Mean 127s. 6d.

*Note.*—The total number of quarters of wheat sold in England and Wales for the 13 weeks ended September 30th, 1851, was 971,276; for the 13 weeks ended December 31st, 1,423,582; for the 13 weeks ended March 31st, 1852, 1,241,921; for the 13 weeks ended June 30th, 1,143,339; for the 13 weeks ended September 30th, 1,023,251; for the 13 weeks ended December 31st, 1,445,906; for the 13 weeks ended March 31st, 1853, 1,236,493. The total number of quarters entered for Home Consumption was, respectively, 1,183,523; 671,803; 358,024; 710,780; 882,850; 947,310; and 825,886; the second total, however, embraces the returns of 14 weeks.

**STATE OF THE PUBLIC HEALTH.**—118,241 deaths have been registered in the first three months of the present year, a number exceeding by 11,559 the deaths in the winter quarter of 1852, and by still more the deaths in any previous winter, except the winters of 1847 and 1848, when influenza and cholera prevailed. The annual mortality in England has, within the last ten years, been at the rate of 2·252

per cent.; on an average of the ten winter quarters, the rate has been 2·467 per cent.; in the winter of the present year, 2·620 per cent. The annual rate of mortality was raised in both the town and the country; in 117 districts, comprising the chief towns, from 2·759 to 2·888 per cent.; in 507 country and small town districts, from 2·246 to 2·397 per cent. The ratio is increased by the season more in the country than it is in the towns, which, however, still maintained their fatal pre-eminence, destroying by their dirt and imperfect sanatory arrangements, out of the same population, 5 lives to every 4 who die in the open country.

Small-pox, scarlatina, typhus, influenza, or bronchitis, have prevailed in many places, and are the proximate causes of the excessive mortality.

The excess of mortality has been general, but it has been greatest in the South-Western Division (V.), in the Division (VI.) on the Severn, in Wales, and in Lancashire; on the whole, the western side of the island appears to have sustained the heaviest losses.

London has latterly been unusually unhealthy, but the excess of deaths is chiefly referable to the depression of the temperature in February and March; and in the 13 weeks the deaths, allowing for increase of population, have not exceeded the numbers in the winter quarters of 1849 and 1851. Of the zymotic class of diseases, scarlatina (574), hooping-cough (702), and typhus (662), were the most fatal. Consumption has been unusually fatal, and the deaths were 1872 to 1630 in the winter quarters of 1849. Bronchitis was fatal to a greater number of persons (1880) than consumption, or to 600 more than died of that disease in the winter quarter of 1849—1850. Carbuncle has been unusually fatal; the deaths in the last five winter quarters have been 1, 2, 3, 17, 20. There is no decline in the deaths from delirium tremens, or intemperance, or poison. The deaths by fractures and contusions exhibited a remarkable increase; they have been in the five last winter quarters, 114, 139, 163, 161, and 181.

### *Deaths in the Winter Quarters.*

	1843	1844	1845	1846	1847	1848	1849	1850	1851	1852	Total 1843-52	1853
In 117 Districts, comprising the chief towns .....	43748	46136	49996	43850	56105	57710	51017	46066	52333	52408	499369	57092
In 507 Districts, comprising chiefly small towns and country parishes .....	51178	54888	54668	45634	63567	62322	55052	52541	53113	54274	547237	61149
Total .....	94926	101024	104664	89484	119672	120032	106069	98607	105446	106682	1046606	118241

### *Population, Deaths, and Mortality per cent. in the Winter Quarters, 1843-53.*

	Population Enumerated.		Deaths in 10 Winter Quarters, 1843-52.	Annual Rate of Mortality of 10 Winter Quarters, 1843-52.	Annual Rate of Mortality in the Winter Quarter 1853.
	June 6-7th, 1841.	March 31st, 1851.			
In 117 Districts, comprising the chief towns .....	6,612,958	7,795,882	499,369	2·759	2·888
In 507 Districts, comprising chiefly small towns and country parishes .....	9,301,190	10,126,886	547,237	2·246	2·397
All England .....	15,914,148	17,922,768	1,046,606	2·467	2·620



## MORTALITY OF THE METROPOLIS.

*A Table of the Deaths in London from all Causes, Registered in the March Quarters of the Four Years, 1850-53.*

CAUSES OF DEATH.	Quarters ended March,				CAUSES OF DEATH.	Quarters ended March,			
	1850.	1851.	1852.	1853.		1850.	1851.	1852.	1853.
ALL CAUSES.....	13,219	15,410	14,481	15,864	III. Scrofula.....	72	87	131	96
SPECIFIED CAUSES .....	13,136	15,323	14,399	15,718	Tabes Mesenterica..	158	175	198	185
I. Zymotic Diseases....	2,126	2,999	2,702	2,861	Phthisis or Con- sumption.....	1,626	1,792	1,811	1,872
SPORADIC DISEASES.					Hydrocephalus ....	370	418	448	433
II. Dropsy, Cancer, and other Diseases of uncertain or va- riable Seat .....	606	631	605	640	IV. Cephalitis.....	135	138	160	140
III. Tubercular Diseases..	2,226	2,472	2,588	2,586	Apoplexy .....	376	314	296	360
IV. Diseases of the Brain, Spinal Marrow, Nerves, and Senses	1,638	1,634	1,625	1,805	Paralysis .....	366	280	316	326
V. Diseases of the Heart and Blood-Vessels	544	665	655	643	Delirium Tremens..	21	30	29	42
VI. Diseases of the Lungs and of the other Organs of Respiration ....	2,802	3,522	2,840	3,585	Chorea .....	7	2	3	2
VII. Diseases of the Sto- mach, Liver, and other Organs of Digestion .....	763	815	819	821	Epilepsy.....	75	82	82	110
VIII. Diseases of the Kid- neys, &c.....	165	156	194	188	Tetanus.....	4	7	6	2
IX. Childbirth, Diseases of the Uterus, &c.)	122	106	112	118	Insanity .....	19	32	28	30
X. Rheumatism, Dis- eases of the Bones, Joints, &c. ....	101	109	110	122	Convulsions.....	482	572	551	617
XI. Diseases of the Skin, Cellular Tissue, &c.)	24	22	40	42	Disease of Brain, &c.	153	177	154	176
XII. Malformations.....	43	42	50	53	V. Pericarditis .....	32	47	33	28
XIII. Premature Birth & Debility .....	320	390	391	405	Aneurism .....	24	20	19	23
XIV. Atrophy .....	277	283	300	366	Disease of Heart....	488	598	603	592
XV. Age .....	690	686	676	781	VI. Laryngitis.....	54	73	67	79
XVI. Sudden* .....	234	218	127	126	Bronchitis .....	1,284	1,612	1,422	1,880
XVII. Violence, Privation, Cold, and Intem- perance .....	455	573	565	576	Pleurisy.....	41	71	39	49
					Pneumonia .....	1,011	1,244	908	1,083
					Asthma .....	300	383	266	357
					Disease of Lungs, &c	112	139	138	137
					VII. Teething.....	139	194	178	175
					Quinsey.....	17	18	8	23
					Gastritis.....	28	18	19	17
					Enteritis .....	88	87	83	79
					Peritonitis.....	57	54	65	40
					Ascites .....	30	33	32	38
					Ulceration of In- testines, &c. ....	23	27	34	34
					Hernia .....	37	40	46	43
					Ileus .....	30	30	27	39
					Intussusception ....	13	9	10	14
					Stricture of the In- testinal Canal. .)	14	9	10	7
					Dis. of Stomach, &c.	76	64	84	76
					Disease of Pancreas ..	4	..	..	..
					Hepatitis .....	44	55	39	47
					Jaundice .....	30	40	42	40
					Disease of Liver ....	134	131	138	147
					Disease of Spleen ..	3	2	4	2
					VIII. Nephritis .....	6	9	7	11
					Nephria (or Bright's Disease) .....	34	40	46	54
					Ischuria .....	2	5	3	2
					Diabetes.....	10	9	13	11
					Stone .....	12	4	5	11
					Cystitis .....	7	12	14	5
					Stricture of Urethra	13	12	13	13
					Dis. of Kidneys, &c.	81	65	33	81
					IX. Paramenia.....	4	3	3	2
					Ovarian Dropsy .....	16	8	12	10
					Childbirth, see Metria	66	65	62	68
					Dis. of Uterus, &c....	36	30	35	38
					X. Arthritis .....	3	3	8	5
					Rheumatism .....	60	60	60	69
					Disease of Joints, &c.	38	46	42	43
					XI. Carbuncle.....	2	3	17	20
					Phlegmon.....	7	5	9	10
					Disease of Skin, &c.	15	14	14	12
					XVII. Intemperance .....	18	23	19	22
					Privation .....	8	13	12	10
					Want of Breast Milk, see Privation	40	56	64	56
					Neglect .....	2	1	..	2
					Cold, see Privation..	1	4	4	5
					Poison .....	20	29	23	24
					Burns and Scalds ..	106	100	88	98
					Hanging, &c. ....	45	71	76	72
					Drowning.....	48	70	72	68
					Fractures and Con- tusions.....	139	163	161	181
					Wounds.....	19	34	35	25
					Other Violence ....	9	9	11	13
					Causes not specified	83	87	82	146
I. Small Pox.....	95	275	389	62					
Measles.....	303	363	151	184					
Scarlatina.....	139	206	366	574					
Whooping Cough ....	442	781	539	702					
Croup.....	79	109	97	93					
Thrush .....	25	34	34	26					
Diarrhœa .....	207	223	225	221					
Dysentery.....	43	30	28	28					
Cholera .....	8	7	13	7					
Influenza .....	38	205	40	51					
Purpura and Scurvy	8	9	10	15					
Ague .....	3	3	7	3					
Remittent Fever....	20	32	25	23					
Infantile Fever ....	11	18	14	15					
Typhus .....	404	521	527	662					
Metria, or Puer- peral Fever, see Childbirth.....	60	47	62	44					
Rheumatic Fever, see Rheumatism }	21	19	18	18					
Erysipelas.....	119	81	120	86					
Syphilis.....	32	32	36	42					
Noma or Canker, see Mortification }	8	4	1	5					
Hydrophobia .....	1	..	..	..					
II. Hæmorrhage .....	55	45	63	46					
Dropsy .....	214	231	220	236					
Abscess .....	30	24	17	32					
Ulcer .....	12	21	12	16					
Fistula .....	3	7	3	6					
Mortification .....	59	56	44	46					
Cancer .....	213	236	231	243					
Gout .....	20	11	15	15					

\* Under the head of "sudden deaths," are classed not only deaths described as sudden, of which the cause has not been ascertained or stated; but also all deaths returned by the Coroner in vague terms, such as "found dead," "natural causes," &c. &c.

NAMES OF THE PLACES.	Mean Pressure of Dry Air reduced to the level of the Sea.	Mean Temperature of the Air.	Highest Reading of the Thermometer.	Lowest Reading of the Thermometer.	Mean Daily Range of Temperature.	Mean Monthly Range of Temperature.	Range of Temperature in the Quarter.	Mean Temperature of Evaporation.	Mean Temperature of the Dew Point.	Wind.		Mean Amount of Cloud.	RAIN.		Mean Weight of Vapour in a Cubic Foot of Air.	Mean additional Weight required to saturate a Cubic Foot of Air.	Mean Degree of Humidity.	Mean whole Amount of Water in a Vertical Column of Atmosphere.	Gr.	In.	Mean Weight of a Cubic Foot of Air.	Height of Cistern above the level of the Sea.
										Mean Strength.	General Direction.		No. of Days on which it fell.	Amount collected.								
Jersey.....	29.465	51.5	67.0	38.0	11.4	25.8	32.0	50.1	48.7	2.3	s.w. & n.w.	6.3	60	18.5	4.1	0.4	0.912	5.0	534	85		
Guernsey.....	29.461	51.6	67.0	37.0	5.8	18.8	24.5	49.6	48.1	1.7	s.w. & w.	7.3	67	22.3	4.0	0.5	0.904	4.8	534	123		
Helston.....	29.372	51.8	67.0	37.0	10.3	25.7	35.0	50.0	48.1	2.2	s.w. & s.	7.0	64	18.9	4.0	0.6	0.882	4.8	531	106		
Falmouth.....	29.424	50.8	65.0	31.0	10.7	25.7	34.0	48.5	45.9	0.7	s.w. & s.	6.9	72	22.6	3.8	0.7	0.847	4.5	534	130		
Truro.....	29.404	50.8	62.0	28.0	11.7	30.7	34.0	48.5	45.9	0.7	s.w. & s.	6.9	72	22.6	3.8	0.7	0.847	4.5	534	130		
Torquay.....	29.404	50.8	62.0	28.0	11.7	30.7	34.0	48.5	45.9	0.7	s.w. & s.	6.9	72	22.6	3.8	0.7	0.847	4.5	534	130		
Exeter.....	29.419	48.5	62.8	26.5	12.0	29.1	33.3	47.4	46.1	1.6	s.w. & n.e.	6.2	66	23.0	3.6	0.8	0.887	4.8	535	110		
Venmore.....	29.451	51.4	61.0	34.0	7.1	23.3	27.0	47.1	44.9	2.6	s.w. & w.	7.1	65	22.0	3.6	0.6	0.910	4.4	537	130		
Newport.....	29.451	49.0	63.0	28.1	10.3	29.9	35.2	47.1	44.9	2.6	s.w. & w.	7.1	65	22.0	3.6	0.6	0.910	4.4	537	130		
Ryde.....	29.459	48.9	63.0	28.6	13.9	30.2	36.1	46.8	43.8	1.0	Variable.	7.3	61	20.0	3.5	0.7	0.844	4.2	535	110		
Worthing.....	29.459	48.6	63.0	28.6	13.9	30.2	36.1	46.8	43.8	1.0	Variable.	7.3	61	20.0	3.5	0.7	0.844	4.2	535	110		
Chichester.....	29.459	48.6	63.0	28.6	13.9	30.2	36.1	46.8	43.8	1.0	Variable.	7.3	61	20.0	3.5	0.7	0.844	4.2	535	110		
Southampton.....	29.459	48.6	63.0	28.6	13.9	30.2	36.1	46.8	43.8	1.0	Variable.	7.3	61	20.0	3.5	0.7	0.844	4.2	535	110		
Uckfield.....	29.457	48.2	64.0	28.0	11.6	26.7	33.0	47.3	44.1	0.4	s. & n.w.	6.5	57	20.8	3.7	0.4	0.905	4.5	536	60		
Midhurst.....	29.457	47.2	64.0	26.5	12.8	35.7	38.0	45.9	43.3	1.0	s.w. & w.	7.0	62	19.9	3.4	0.6	0.851	4.1	537	84		
Lewisham.....	29.472	47.9	64.6	26.5	14.4	31.7	37.7	46.0	44.6	1.8	s.w. & w.	7.7	54	19.1	3.6	0.3	0.919	4.3	537	82		
Royal Observatory.....	29.474	48.1	61.0	31.0	11.9	29.9	33.0	45.8	43.4	0.6	s.w.	7.6	56	12.0	3.2	0.8	0.803	3.9	536	150		
Chiswell Street.....	29.446	51.4	67.0	37.0	10.0	26.8	30.0	45.3	41.9	...	s.w. & n.e.	8.1	56	12.7	3.6	0.9	0.800	4.3	533	96		
St. John's Wood.....	29.447	46.7	62.8	29.0	12.6	30.2	33.8	45.2	43.4	1.5	.....	8.1	56	12.7	3.4	0.4	0.887	4.1	537	130		
Enfield.....	29.447	46.7	62.8	29.0	12.6	30.2	33.8	45.2	43.4	1.5	.....	8.1	56	12.7	3.4	0.4	0.887	4.1	537	130		
Rose Hill.....	29.429	46.1	64.0	28.0	12.4	30.6	38.0	44.7	43.0	2.5	s.w. & s.w.	7.1	61	10.9	3.4	0.3	0.907	4.0	535	270		
Bicester.....	29.439	46.8	64.0	25.5	11.8	32.6	38.5	45.1	43.1	1.2	s.w. & s.	7.1	51	10.9	3.4	0.4	0.884	4.0	534	210		
Radcliffe Observatory.....	29.439	46.8	63.9	26.3	11.4	30.9	37.6	45.4	43.1	2.0	Variable.	7.4	58	13.3	3.4	0.5	0.860	4.1	535	320		
Stone Observatory.....	29.395	46.4	62.8	27.8	10.7	29.8	35.0	44.7	42.6	0.7	s.w. & s.	7.3	63	11.5	3.4	0.6	0.919	4.1	534	230		
Hartwell House.....	29.424	47.4	63.0	29.0	12.5	30.1	34.0	44.3	42.8	1.1	s.w. & s.	7.3	63	11.5	3.4	0.6	0.919	4.1	534	230		
Hartwell Rectory.....	29.466	46.1	60.7	29.0	10.7	27.8	31.0	44.8	43.3	0.9	s.w. & s.	6.6	63	11.6	3.1	0.6	0.872	3.8	534	234		
Aylesbury.....	29.459	45.9	62.0	27.0	13.1	30.9	35.0	43.7	40.9	0.8	.....	6.6	63	11.6	3.1	0.6	0.872	3.8	534	234		
Linslade.....	29.451	45.6	61.0	27.0	10.8	29.0	34.0	43.8	41.6	...	s.w. & s.	7.1	59	10.9	3.2	0.5	0.872	3.8	534	234		
Royston.....	29.432	46.7	64.4	30.4	10.3	27.6	34.0	45.1	43.1	...	s.w. & s.	7.1	59	10.9	3.2	0.5	0.872	3.8	534	234		
Cardington.....	29.423	46.2	63.6	28.0	12.8	31.4	35.6	44.9	43.2	1.0	s.w. & s.	7.2	56	9.9	3.4	0.4	0.906	4.1	538	313		
Bedford.....	29.417	46.4	61.5	29.0	11.0	28.5	32.5	44.3	41.8	1.1	s.w. & s.	7.5	57	10.0	3.3	0.6	0.856	3.9	537	100		
Norwich.....	29.441	46.6	65.0	29.0	10.1	31.3	36.0	44.8	42.7	1.8	s.w. & s.	7.5	57	10.0	3.3	0.6	0.856	3.9	537	100		
Grantham.....	29.426	45.5	62.6	28.5	8.6	29.8	34.1	43.5	41.0	light	s. & s.e.	7.1	63	9.9	3.2	0.5	0.877	4.0	530	39		
Derby.....	29.402	44.8	61.0	26.0	11.2	29.3	35.0	43.5	41.9	...	s.w. & n.e.	7.3	56	11.7	3.3	0.4	0.906	3.9	538	100		
Holkham.....	29.421	46.0	64.0	30.0	10.7	29.3	34.0	44.6	42.3	1.3	Variable.	7.3	56	11.7	3.3	0.4	0.906	3.9	538	100		
Nottingham.....	29.408	45.1	62.5	21.8	12.3	33.6	37.7	43.2	40.9	0.7	s.w. & s.	7.3	60	12.3	3.1	0.5	0.866	3.7	533	103		
Gainsborough.....	29.430	46.4	62.5	30.0	8.2	26.2	32.5	44.5	43.0	1.5	s.w. & s.	7.2	60	13.2	3.4	0.3	0.916	3.1	541	290		
Liverpool.....	29.375	47.2	60.7	32.5	10.4	29.5	34.0	43.7	41.0	0.2	s.w. & s.	5.9	50	8.7	3.3	0.4	0.880	3.8	537	37		
Manchester.....	29.413	44.9	66.0	27.0	6.6	23.2	28.2	45.6	43.7	1.1	Variable.	7.4	69	11.7	3.5	0.4	0.876	3.8	538	137		
Alderley Edge.....	29.413	44.9	66.0	27.0	6.6	23.2	28.2	45.6	43.7	1.1	Variable.	7.4	69	11.7	3.5	0.4	0.876	3.8	538	137		
Bowdon.....	29.413	44.9	66.0	27.0	6.6	23.2	28.2	45.6	43.7	1.1	Variable.	7.4	69	11.7	3.5	0.4	0.876	3.8	538	137		
Walsley.....	29.386	45.0	63.0	29.4	8.9	31.3	32.6	43.2	40.3	...	s.w. & n.e.	6.2	84	13.9	3.1	0.4	0.880	3.7	535	115		
Leeds.....	29.386	45.0	63.0	30.5	13.4	32.8	32.5	43.1	40.8	2.0	s.w.	7.3	66	12.0	2.9	0.3	0.800	3.5	536	138		
Stonyhurst.....	29.380	46.0	63.0	30.5	13.4	32.8	32.5	43.1	40.8	2.0	s.w.	7.3	66	12.0	2.9	0.3	0.800	3.5	536	138		
York.....	29.380	44.8	60.7	27.4	10.8	30.5	33.3	42.5	40.6	1.2	s.w.	8.1	67	10.4	3.1	0.4	0.863	3.7	534	30		
Whitehaven.....	29.319	45.5	61.0	26.5	10.2	26.3	37.0	42.8	40.9	2.6	s.w. & n.e.	7.2	66	19.1	3.3	0.4	0.882	3.9	537	39		
Durham.....	29.374	45.7	60.1	27.5	6.6	20.3	34.5	43.9	41.9	...	s.w.	7.2	66	19.1	3.3	0.4	0.882	3.9	537	39		
Newcastle.....	29.346	45.1	59.0	28.0	7.8	27.0	32.6	42.2	40.3	1.3	Variable.	7.2	68	17.0	3.2	0.5	0.862	3.8	537	121		
North Shields.....	29.346	45.1	59.0	28.0	7.8	27.0	32.6	42.2	40.3	1.3	Variable.	7.2	68	17.0	3.2	0.5	0.862	3.8	537	121		
Glasgow.....	29.346	45.1	59.0	28.0	7.8	27.0	32.6	42.2	40.3	1.3	Variable.	7.2	68	17.0	3.2	0.5	0.862	3.8	537	121		
Dumino.....	29.308	41.7	57.0	23.0	11.3	31.0	32.6	42.6	41.0	2.2	s.w. & n.w.	7.0	50	16.7	2.9	0.3	0.912	3.8	541	124		
										2.1	s.w. & s.e.	5.2	52	13.7	2.9	0.5	0.371	3.4	537	250		



NAMES OF THE PLACES.	Mean Pressure of Dry Air reduced to the Level of the Sea.	Mean Temperature of the Air.	Highest Reading of the Thermometer.	Lowest Reading of the Thermometer.	Mean Daily Range of Temperature.	Mean Monthly Range of Temperature.	Range of Temperature in the Quarter.	Mean Temperature of Evaporation.	Mean Temperature of the Dew Point.	WIND.		Mean Amount of Cloud.	RAIN.		Mean additional Weight of Air required to saturate a Cubic Foot of Vapour in a Cubic Foot of Air.	Mean degree of Humidity.	Mean whole Amount of Water in a Vertical Column of Atmosphere.	Mean Weight of a Cubic Foot of Air.	Height of Cistern of the Barometer above the level of the Sea.
										Mean estimated Strength.	General Direction.		Number of Days on which it fell.	Amount collected.					
Jersey	29.591	41.3	57.0	26.0	10.7	24.3	31.0	39.8	87.7	2.3	N.E. & S.W.	6.0	46	8.1	2.9	0.801	3.4	546	85
Guernsey	29.587	40.9	53.5	21.5	7.2	18.0	24.0	39.9	87.9	1.6	N.E. & S.W.	6.6	58	10.0	2.9	0.800	3.4	545	123
Falmouth	29.606	41.6	58.0	29.5	12.4	30.3	37.0	39.3	87.9	1.4	N.E. & S.W.	6.0	55	9.1	2.9	0.808	3.2	546	155
Turbo	29.598	40.3	56.0	27.0	13.4	32.7	32.0	38.7	85.8	0.8	N.E. & S.W.	5.3	46	8.5	2.4	0.769	2.9	547	160
Exeter	29.573	40.4	57.2	24.0	8.5	24.3	32.0	37.2	84.6	2.7	N.E. & S.W.	6.5	42	7.0	2.6	0.847	3.0	544	130
Venhor	29.611	41.3	55.0	20.0	12.9	29.3	37.2	37.5	86.3	2.1	N.E. & S.W.	5.3	48	7.9	2.7	0.845	2.9	544	28
Newport	29.601	40.3	55.0	20.0	8.5	24.7	30.0	37.1	86.3	2.0	N.E. & S.W.	6.5	40	7.5	2.6	0.826	3.0	540	110
Ryde	29.611	40.3	55.0	20.0	11.2	27.8	35.0	37.0	84.7	1.2	N.E. & S.W.	4.0	50	6.1	2.6	0.849	3.0	548	25
Worthing	29.574	38.7	57.5	22.5	14.3	29.8	27.0	37.1	84.7	0.6	N.E. & S.W.	5.7	35	6.5	2.7	0.873	3.1	549	60
Southampton	29.603	39.1	56.0	22.0	8.2	20.8	34.0	37.8	85.8	1.4	N.E. & S.W.	6.0	30	7.3	2.5	0.804	3.2	547	84
Midhurst	29.603	37.9	58.2	23.0	16.1	27.0	34.0	37.8	85.8	1.5	N.E. & S.W.	7.1	30	7.3	2.5	0.874	2.9	550	94
Clifton	29.600	37.6	57.8	18.0	13.1	30.6	30.8	35.7	83.7	1.1	N.E. & S.W.	6.0	41	4.2	2.4	0.842	2.8	547	228
Lewisham	29.602	38.2	58.5	17.0	12.0	30.3	30.8	35.7	83.7	1.1	N.E. & S.W.	8.5	50	4.7	2.5	0.861	2.9	549	182
Royal Observatory	29.604	38.1	60.5	20.5	13.0	31.5	45.8	36.4	83.9	0.5	N.E. & S.W.	...	47	4.4	2.6	0.799	2.7	548	159
Paddington	29.596	38.9	60.4	22.9	12.1	29.6	40.0	35.5	81.7	...	N.E. & S.W.	...	34	3.9	2.6	0.858	3.0	548	125
Chiswell Street	29.594	41.2	60.5	25.5	9.5	26.5	37.5	37.1	84.4	...	N.E. & S.W.	...	34	3.9	2.6	0.775	3.0	545	96
St. John's Wood	29.571	37.3	60.0	20.8	12.6	28.3	33.0	35.9	83.8	1.5	N.E. & S.W.	7.6	44	5.4	2.5	0.888	3.0	548	150
Enfield	29.545	36.5	55.5	20.0	10.7	30.5	35.5	35.3	83.4	...	N.E. & S.W.	6.9	51	4.4	2.5	0.809	2.9	550	270
Rose Hill	...	36.6	57.0	11.5	11.9	30.8	45.5	35.3	83.4	...	N.E. & S.W.	6.9	49	4.4	2.5	0.809	2.9	550	270
Bicester	29.594	37.5	59.0	18.9	12.9	29.1	40.9	36.0	85.2	2.0	N.E. & S.W.	7.0	38	4.7	2.7	0.921	3.1	546	210
Radcliffe Observatory	29.548	37.5	56.4	19.1	14.6	28.9	37.3	35.7	83.0	1.7	N.E. & S.W.	7.2	38	4.7	2.7	0.856	2.9	547	320
Stone Observatory	29.532	36.5	57.2	18.0	11.3	28.3	30.2	34.9	83.3	0.7	N.E. & S.W.	5.8	58	5.0	2.7	0.863	2.8	542	250
Hartwell House	29.551	36.5	58.7	14.0	12.5	32.1	44.7	30.3	84.3	1.1	N.E. & S.W.	6.8	53	5.6	2.6	0.892	3.0	546	240
Hartwell Rectory	29.551	36.5	58.7	14.0	12.5	32.1	44.7	30.3	84.3	1.1	N.E. & S.W.	6.8	53	5.6	2.6	0.892	3.0	546	240
Aylesbury	29.588	39.1	59.0	16.0	10.3	28.0	43.0	37.4	85.0	0.9	N.E. & S.W.	6.5	48	6.1	2.4	0.872	3.1	544	284
Linslade	29.588	39.1	59.0	16.0	10.3	28.0	43.0	37.4	85.0	0.9	N.E. & S.W.	6.5	48	6.1	2.4	0.872	3.1	544	284
Royston	29.571	37.4	59.7	13.6	11.2	30.7	40.1	36.0	82.2	...	N.E. & S.W.	6.7	51	5.1	2.5	0.880	3.0	546	271
Carlington	29.571	37.0	59.7	13.6	11.2	30.7	40.1	36.0	82.2	...	N.E. & S.W.	6.7	51	5.1	2.5	0.880	3.0	546	271
Bedford	29.571	37.0	59.7	13.6	11.2	30.7	40.1	36.0	82.2	...	N.E. & S.W.	6.7	51	5.1	2.5	0.880	3.0	546	271
Norwich	29.569	36.6	57.0	17.0	10.7	28.8	38.0	35.8	84.0	0.9	N.E. & S.W.	6.7	53	4.0	2.5	0.897	2.9	550	100
Grantham	29.585	36.4	56.9	15.4	9.0	28.4	41.5	35.4	83.7	1.3	N.E. & S.W.	6.3	48	4.0	2.3	0.831	2.7	549	100
Derby	29.563	36.8	53.0	19.0	12.8	27.0	34.0	35.3	83.0	light	N.E. & S.W.	7.3	55	7.0	2.5	0.903	2.9	551	39
Holkham	29.552	36.4	56.5	7.2	10.5	31.1	40.3	35.5	83.1	...	N.E. & S.W.	6.6	54	6.1	2.4	0.880	2.8	549	190
Nottingham	29.552	36.9	57.0	18.8	12.1	28.5	38.2	35.1	83.4	1.0	N.E. & S.W.	6.6	54	6.1	2.4	0.880	2.8	549	190
Hawarden	29.600	37.6	57.0	23.0	8.7	25.8	34.0	36.5	84.8	0.5	N.E. & S.W.	6.7	60	4.8	2.6	0.922	3.0	551	89
Gainsborough	29.572	36.2	52.0	16.0	9.9	21.7	39.0	34.2	81.0	1.4	N.E. & S.W.	6.7	60	4.8	2.6	0.878	2.9	550	103
Liverpool	29.558	39.1	55.3	26.7	7.3	29.4	38.6	37.1	83.8	0.3	N.E. & S.W.	6.7	51	5.0	2.3	0.907	3.1	546	260
Manchester	29.578	37.2	62.0	18.5	12.9	33.7	43.5	36.0	84.3	0.9	N.E. & S.W.	7.2	51	5.0	2.3	0.846	2.7	552	37
Alderley Edge	...	35.9	56.0	21.2	8.0	29.8	37.8	34.4	81.8	...	N.E. & S.W.	7.1	54	4.8	2.6	0.906	3.0	549	137
Bowdon	29.570	36.4	56.0	14.0	13.2	30.5	42.0	34.9	82.5	...	N.E. & S.W.	5.7	45	4.9	2.3	0.868	2.8	547	...
Wakefield	...	...	...	...	...	...	...	...	...	...	N.E. & S.W.	7.0	45	4.9	2.3	0.876	2.8	550	115
Leeds	29.571	35.3	53.0	17.7	12.8	28.9	35.3	34.4	81.9	1.4	N.E. & S.W.	8.2	40	4.3	2.3	0.870	2.8	545	138
Stonyhurst	29.571	35.3	53.0	17.7	12.8	28.9	35.3	34.4	81.9	1.4	N.E. & S.W.	8.2	40	4.3	2.3	0.870	2.8	545	138
York	29.526	39.8	53.5	20.0	11.3	27.3	39.5	37.4	83.9	0.9	N.E. & S.W.	6.4	35	7.9	2.3	0.870	2.8	545	50
Whitehaven	29.571	35.0	50.6	17.5	7.9	24.6	33.1	33.9	83.9	2.3	N.E. & S.W.	6.7	51	7.7	2.4	0.822	3.0	547	90
Durham	29.571	35.0	50.6	17.5	7.9	24.6	33.1	33.9	83.9	2.3	N.E. & S.W.	6.7	51	7.7	2.4	0.822	3.0	547	90
Newcastle	29.624	35.4	52.5	21.3	7.1	25.1	31.2	35.0	84.5	2.3	N.E. & S.W.	6.0	47	10.7	2.6	0.909	3.0	552	121
North Shields	29.624	35.4	52.5	21.3	7.1	25.1	31.2	35.0	84.5	2.3	N.E. & S.W.	6.0	47	10.7	2.6	0.909	3.0	552	121
Dunino	29.508	34.7	51.0	14.0	10.8	30.0	37.0	33.3	80.8	1.8	N.E. & S.W.	5.0	49	7.9	2.3	0.872	2.6	548	250

## REVENUE.

*Abstract of the Net Produce of the Revenue of Great Britain in the Years and Quarters ending 5th July, 1852 and 1853; showing the Increase or Decrease thereof.—(Continued from page 190.)*

[Compiled from the "London Gazette."]

Sources of Revenue.	Years ended 5th July.			
	1852.	1853.	Increase.	Decrease.
	£	£	£	£
Customs.....	19,011,774	18,954,362	....	57,412
Excise .....	13,226,404	13,737,599	531,195	....
Stamps .....	6,002,860	6,477,347	474,487	....
Taxes.....	3,149,702	3,201,047	51,345	....
Property Tax .....	5,363,910	5,589,079	225,169	....
Post Office.....	1,041,000	1,066,000	25,000	....
Crown Lands.....	220,000	392,888	172,888	....
Miscellaneous .....	302,948	159,862	....	143,086
<b>Total Ordinary Revenue</b> .....	<b>48,298,598</b>	<b>49,578,184</b>	<b>1,480,084</b>	<b>200,498</b>
Imprest and other Moneys .	595,004	758,789	163,785	....
Repayments of Advances....	842,886	1,322,469	479,583	....
<b>Total Income.....</b>	<b>49,736,488</b>	<b>51,659,442</b>	<b>2,123,452</b>	<b>200,498</b>
Deduct Decrease .....			200,498	
<b>Increase on the Year .....</b>			<b>1,922,954</b>	

Sources of Revenue.	Quarters ended 5th July.			
	1852.	1853.	Increase.	Decrease.
	£	£	£	£
Customs .....	4,502,164	4,943,337	441,173	....
Excise .....	3,443,516	3,795,617	352,101	....
Stamps .....	1,626,826	1,675,148	48,322	....
Taxes.....	1,503,707	1,510,483	6,776	....
Property Tax.....	1,056,991	1,053,027	....	3,964
Post Office.....	230,000	251,000	21,000	....
Crown Lands.....	60,000	200,888	140,888	....
Miscellaneous .....	202,189	90,537	....	111,652
<b>Total Ordinary Revenue</b> .....	<b>12,625,393</b>	<b>13,520,037</b>	<b>1,010,260</b>	<b>115,616</b>
Imprest and other Moneys .	212,688	256,759	44,071	....
Repayments of Advances ....	216,652	424,573	207,921	....
<b>Total Income.....</b>	<b>13,054,733</b>	<b>14,201,369</b>	<b>1,262,252</b>	<b>115,616</b>
Deduct Decrease .....			115,616	
<b>Increase on the Quarter .....</b>			<b>1,146,636</b>	

*Consolidated Fund Operations.*—The total income brought to this account in the quarter ended 5th July, 1853, was 14,529,380*l.* The total charge upon it was 8,364,718*l.*, leaving a surplus of 6,164,662*l.*



CORN.

*Average Prices of Corn per Imperial Quarter in England and Wales, during each Week of the First Quarter of 1853; together with the Monthly and Quarterly Average—(Continued from p. 191.)*

[Supplied by the Controller of Corn Returns.]

Weeks ended on a Saturday, 1853.		Weekly Average.					
		Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
April	2 .....	44 4	31 6	19 0	30 5	34 8	32 5
	9 .....	44 9	31 4	18 9	31 10	34 5	32 10
	16 .....	44 10	31 11	19 0	29 10	34 3	33 7
	23 .....	44 7	31 5	19 0	27 3	34 9	31 11
	30 .....	44 4	31 6	18 8	30 0	35 3	33 3
Average for April .....		44 6	31 6	18 10	29 10	34 8	32 9
May	7 .....	44 6	31 4	19 0	30 7	35 2	33 3
	14 .....	44 7	31 5	18 8	29 8	35 5	33 3
	21 .....	43 11	30 11	19 1	35 8	36 0	32 1
	28 .....	43 9	30 6	18 7	33 2	36 7	32 7
Average for May .....		44 2	31 0	18 10	32 3	35 9	32 9
June	4 .....	43 3	29 6	19 0	34 0	36 9	33 8
	11 .....	43 11	29 10	18 10	34 9	38 1	34 9
	18 .....	45 0	29 1	18 11	30 11	38 11	34 6
	25 .....	46 11	29 3	20 1	32 8	39 5	34 9
Average for June .....		44 9	29 5	19 2	33 1	38 3	34 5
Average for the Quarter ..		44 6	30 8	18 11	31 7	36 1	33 3

*Foreign and Colonial Wheat and Wheat-Flour imported in each of the Months ended 5th April, 5th May, and 5th June, 1853; the Quantities Entered for Home Consumption during the same Months; and the Quantities remaining in Warehouses at the close thereof.—(Continued from p. 191.)*

[Compiled from the "London Gazette."]

WHEAT.

Months ended	Imported.			Quantities entered for Home Consumption.			In Bond at the Month's end.		
	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.
1853.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.
5th April	286,477	..	286,477	287,153	..	287,153	711	1	712
5th May	343,277	..	343,277	343,401	..	343,401	588	1	589
5th June	525,236	..	525,236	525,236	..	525,236	589	1	590

WHEAT-FLOUR.

Months ended	Imported.			Quantities entered for Home Consumption.			In Bond at the Month's end.		
	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.
1853.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.
5th April	762,170	36	762,206	62,170	36	762,206	8	7	15
5th May	535,606	138	535,744	535,606	138	535,744	8	7	15
5th June	339,742	2,222	341,964	339,742	2,222	341,964	8	7	15

*Fluctuations in the Stock and Share Market during the Months of January, February, and March, 1853.—(Continued from p. 93.)*

Stocks and Shares.	Amount of Share.			Amount Paid.			Price on the			Highest Price during the Months of			Lowest Price during the Months of		
	January.	February.	March.	January.	February.	March.	1st Jan.	1st Feb.	1st Mar.	Jan.	Feb.	March.	Jan.	Feb.	March.
Consols .....	...	...	...	...	...	...	100 $\frac{1}{2}$	99 $\frac{1}{2}$	99 $\frac{1}{2}$	100 $\frac{1}{2}$	99 $\frac{1}{2}$	99	99	99	99
Exchequer Bills .....	(March.)	(March.)	(March.)	...	...	...	70 $\frac{1}{2}$	58s.Pm.	7s. 6d. Pm.	100 $\frac{1}{2}$	99 $\frac{1}{2}$	100 $\frac{1}{2}$	57s.Pm.	Par.	3s. Pm.
RAILWAYS—															
Brighton .....	Stock	Stock	Stock	100	100	100	108 $\frac{1}{2}$	105 $\frac{1}{2}$	103 $\frac{1}{2}$	109	107 $\frac{1}{2}$	105	103	105 $\frac{1}{2}$	103
Caledonian .....	Stock	Stock	Stock	100	100	100	67 $\frac{1}{2}$	63 $\frac{1}{2}$	64 $\frac{1}{2}$	68 $\frac{1}{2}$	66	65 $\frac{1}{2}$	62 $\frac{1}{2}$	59 $\frac{1}{2}$	63 $\frac{1}{2}$
Eastern Counties .....	Stock	Stock	Stock	20	20	20	13 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	12 $\frac{1}{2}$	12 $\frac{1}{2}$	12 $\frac{1}{2}$
Great Northern .....	Stock	Stock	Stock	100	100	100	82 $\frac{1}{2}$	75 $\frac{1}{2}$	80 $\frac{1}{2}$	82 $\frac{1}{2}$	81 $\frac{1}{2}$	82	74 $\frac{1}{2}$	74 $\frac{1}{2}$	79 $\frac{1}{2}$
Great Western .....	Stock	Stock	Stock	100	100	100	95 $\frac{1}{2}$	88 $\frac{1}{2}$	91 $\frac{1}{2}$	95 $\frac{1}{2}$	92 $\frac{1}{2}$	92 $\frac{1}{2}$	88 $\frac{1}{2}$	85 $\frac{1}{2}$	89 $\frac{1}{2}$
London and North-Western .....	Stock	Stock	Stock	100	100	100	126 $\frac{1}{2}$	120 $\frac{1}{2}$	120 $\frac{1}{2}$	126 $\frac{1}{2}$	122 $\frac{1}{2}$	121 $\frac{1}{2}$	119 $\frac{1}{2}$	117 $\frac{1}{2}$	117 $\frac{1}{2}$
Midland .....	Stock	Stock	Stock	100	100	100	80 $\frac{1}{2}$	76 $\frac{1}{2}$	77 $\frac{1}{2}$	81	79 $\frac{1}{2}$	78 $\frac{1}{2}$	76 $\frac{1}{2}$	75	73 $\frac{1}{2}$
Lancashire and Yorkshire .....	Stock	Stock	Stock	100	100	100	85	78 $\frac{1}{2}$	78 $\frac{1}{2}$	85 $\frac{1}{2}$	80	78 $\frac{1}{2}$	77 $\frac{1}{2}$	74 $\frac{1}{2}$	74 $\frac{1}{2}$
North Staffordshire .....	20	20	20	17 $\frac{1}{2}$	17 $\frac{1}{2}$	17 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$
South-Eastern .....	Stock	Stock	Stock	100	100	100	84 $\frac{1}{2}$	78 $\frac{1}{2}$	79 $\frac{1}{2}$	85 $\frac{1}{2}$	81 $\frac{1}{2}$	80 $\frac{1}{2}$	77	76 $\frac{1}{2}$	76 $\frac{1}{2}$
South-Western .....	Stock	Stock	Stock	100	100	100	92 $\frac{1}{2}$	89 $\frac{1}{2}$	93	93	93	91 $\frac{1}{2}$	88 $\frac{1}{2}$	88 $\frac{1}{2}$	89 $\frac{1}{2}$
York, Newcastle, & Berwick .....	Stock	Stock	Stock	100	100	100	73 $\frac{1}{2}$	69	70 $\frac{1}{2}$	74	72	71 $\frac{1}{2}$	68 $\frac{1}{2}$	68 $\frac{1}{2}$	68 $\frac{1}{2}$
York and North Midland .....	Stock	Stock	Stock	100	100	100	60 $\frac{1}{2}$	55	60	61	62	61	54	53	58
Northern of France .....	20	20	20	16	16	16	35 $\frac{1}{2}$	33	35 $\frac{1}{2}$	35 $\frac{1}{2}$	36 $\frac{1}{2}$	37 $\frac{1}{2}$	29 $\frac{1}{2}$	32 $\frac{1}{2}$	34 $\frac{1}{2}$
East Indian .....	20	20	20	20	20	20	27	26	26 $\frac{1}{2}$	27	26 $\frac{1}{2}$	26 $\frac{1}{2}$	25 $\frac{1}{2}$	26	25 $\frac{1}{2}$

*Average Price of Meat as sold in Smithfield Market in the Months of January, February, and March, 1853.—(Continued from p. 93.)*

[Supplied by the Board of Trade.]

Description.	Jan.	Feb.	Mar.	Description.	Jan.	Feb.	Mar.	Description.	Jan.	Feb.	Mar.
Inferior Beasts .....	s. d.	s. d.	s. d.	Inferior Sheep .....	s. d.	s. d.	s. d.	Coarse Calves .....	s. d.	s. d.	s. d.
2nd class .....	2 10	3 0	3 2	2nd class .....	3 8	3 10	3 8	Small Prime Calves .....	3 6	3 4	3 6
3rd class .....	3 6	3 6	3 6	3rd do. (long coarse woolled)	4 2	4 4	4 2	Large Hogs .....	4 4	4 8	4 6
4th class (Scots) .....	4 0	3 10	4 0	4th do. (South Down) .....	4 8	4 10	4 8	Small Neat Porkers .....	3 2	3 6	3 6
		4 2		Lambs .....	5 0	5 2	5 2		3 10	4 6	4 0
					...	...	...				

N.B.—Price of Meat at the rate of 8 lbs. Avoirdupois to the stone, sinking the offal.



Fluctuations in the Stock and Share Market during the Months of April, May, and June, 1853.

Stocks and Shares.	Amount of Share.			Amount Paid.			Price on the			Highest Price during the Months of			Lowest Price during the Months of		
	April.	May.	June.	April.	May.	June.	1st April	3rd May	1st June.	April.	May.	June.	April.	May.	June.
	...	...	...	...	...	...	99 <sup>15</sup> / <sub>16</sub> 7s. P.m.	100 <sup>3</sup> / <sub>4</sub> 3s. P.m.	98 <sup>3</sup> / <sub>4</sub> Par to 2s. P.m.	101 12s. P.m.	100 <sup>7</sup> / <sub>8</sub> 5s. P.m.	99 8s. P.m.	99 <sup>7</sup> / <sub>8</sub> Par.	100 3s. Dis.	97 <sup>3</sup> / <sub>4</sub> Par.
Consols .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Exchequer Bills .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
RAILWAYS—															
Brighton .....	Stock	Stock	Stock	100	100	100	103 <sup>3</sup> / <sub>4</sub>	105 <sup>5</sup> / <sub>8</sub>	103 <sup>1</sup> / <sub>2</sub>	106	106	105	103	104	102 <sup>1</sup> / <sub>2</sub>
Caledonian .....	Stock	Stock	Stock	100	100	100	63 <sup>3</sup> / <sub>4</sub>	66 <sup>1</sup> / <sub>4</sub>	68 <sup>3</sup> / <sub>4</sub>	66 <sup>3</sup> / <sub>4</sub>	71	69 <sup>1</sup> / <sub>4</sub>	62 <sup>3</sup> / <sub>4</sub>	66	66 <sup>3</sup> / <sub>4</sub>
Eastern Counties .....	Stock	Stock	Stock	20	20	20	12 <sup>3</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>8</sub>	13 <sup>3</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>8</sub>	12 <sup>3</sup> / <sub>4</sub>
Great Northern .....	Stock	Stock	Stock	100	100	100	81 <sup>1</sup> / <sub>2</sub>	89 <sup>3</sup> / <sub>4</sub>	87 <sup>3</sup> / <sub>4</sub>	90	90 <sup>1</sup> / <sub>2</sub>	88	80 <sup>3</sup> / <sub>4</sub>	88	84 <sup>3</sup> / <sub>4</sub>
Great Western .....	Stock	Stock	Stock	100	100	100	90 <sup>3</sup> / <sub>4</sub>	92 <sup>3</sup> / <sub>8</sub>	88 <sup>3</sup> / <sub>4</sub>	93 <sup>3</sup> / <sub>4</sub>	92 <sup>3</sup> / <sub>4</sub>	89 <sup>7</sup> / <sub>8</sub>	90 <sup>3</sup> / <sub>4</sub>	89 <sup>1</sup> / <sub>2</sub>	87 <sup>3</sup> / <sub>4</sub>
London and North-Western .....	Stock	Stock	Stock	100	100	100	117 <sup>3</sup> / <sub>4</sub>	120	116 <sup>3</sup> / <sub>4</sub>	121 <sup>1</sup> / <sub>2</sub>	120 <sup>3</sup> / <sub>4</sub>	117	117 <sup>3</sup> / <sub>4</sub>	117	114
Midland .....	Stock	Stock	Stock	100	100	100	73 <sup>3</sup> / <sub>4</sub>	76	73 <sup>1</sup> / <sub>2</sub>	77	76 <sup>3</sup> / <sub>4</sub>	74 <sup>3</sup> / <sub>4</sub>	73 <sup>3</sup> / <sub>4</sub>	74 <sup>3</sup> / <sub>4</sub>	70 <sup>3</sup> / <sub>4</sub>
Launceston and Yorksh. .....	Stock	Stock	Stock	100	100	100	74 <sup>3</sup> / <sub>4</sub>	80 <sup>3</sup> / <sub>4</sub>	79 <sup>3</sup> / <sub>4</sub>	80 <sup>3</sup> / <sub>4</sub>	80 <sup>3</sup> / <sub>4</sub>	79 <sup>3</sup> / <sub>8</sub>	74 <sup>3</sup> / <sub>4</sub>	79 <sup>3</sup> / <sub>8</sub>	77
North Staffordshire .....	20	20	20	17 <sup>3</sup> / <sub>4</sub>	17 <sup>3</sup> / <sub>4</sub>	17 <sup>3</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>4</sub>	13 <sup>3</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>4</sub>	12 <sup>3</sup> / <sub>4</sub>
South-Eastern .....	Stock	Stock	Stock	100	100	100	76 <sup>3</sup> / <sub>8</sub>	76 <sup>3</sup> / <sub>8</sub>	73	77 <sup>3</sup> / <sub>8</sub>	76 <sup>3</sup> / <sub>8</sub>	72 <sup>3</sup> / <sub>4</sub>	75	73 <sup>3</sup> / <sub>4</sub>	69 <sup>3</sup> / <sub>4</sub>
South-Western .....	Stock	Stock	Stock	100	100	100	90 <sup>3</sup> / <sub>4</sub>	91	88 <sup>3</sup> / <sub>4</sub>	92 <sup>3</sup> / <sub>4</sub>	91 <sup>3</sup> / <sub>4</sub>	90 <sup>3</sup> / <sub>4</sub>	89 <sup>3</sup> / <sub>4</sub>	89 <sup>3</sup> / <sub>4</sub>	87 <sup>3</sup> / <sub>4</sub>
York, Newcastle, & Berwick .....	Stock	Stock	Stock	100	100	100	69 <sup>3</sup> / <sub>4</sub>	70	70 <sup>3</sup> / <sub>4</sub>	70 <sup>3</sup> / <sub>4</sub>	72 <sup>3</sup> / <sub>4</sub>	71	68 <sup>3</sup> / <sub>4</sub>	69 <sup>3</sup> / <sub>4</sub>	68
York and North Midland .....	Stock	Stock	Stock	100	100	100	58 <sup>3</sup> / <sub>4</sub>	62 <sup>3</sup> / <sub>4</sub>	61 <sup>3</sup> / <sub>2</sub>	61	65	62 <sup>3</sup> / <sub>4</sub>	58	60	57 <sup>3</sup> / <sub>4</sub>
Northern of France .....	20	20	20	16	16	16	35 <sup>5</sup> / <sub>8</sub>	36 <sup>3</sup> / <sub>8</sub>	34 <sup>3</sup> / <sub>8</sub>	36 <sup>3</sup> / <sub>8</sub>	37 <sup>5</sup> / <sub>8</sub>	35 <sup>7</sup> / <sub>8</sub>	35 <sup>5</sup> / <sub>8</sub>	35 <sup>1</sup> / <sub>2</sub>	32 <sup>7</sup> / <sub>8</sub>
East Indian .....	20	20	20	20	20	20	25 <sup>3</sup> / <sub>4</sub>	25 <sup>3</sup> / <sub>4</sub>	25	26	25 <sup>3</sup> / <sub>4</sub>	25 <sup>3</sup> / <sub>8</sub>	25 <sup>3</sup> / <sub>8</sub>	24 <sup>1</sup> / <sub>8</sub>	25

Average Price of Meat as sold in Smithfield Market in the Months of April, May, and June, 1853.

[Supplied by the Board of Trade.]

Description.	April.			May.			June.			Description.	April.			May.			June.		
	s.	d.		s.	d.		s.	d.			s.	d.		s.	d.		s.	d.	
Inferior Beasts .....	3	0		3	2		3	2		Inferior Sheep .....	4	1		3	8		3	8	
2nd class .....	3	6		3	8		3	8		2nd Class .....	4	6		4	0		4	2	
3rd class .....	4	2		4	2		4	0		3rd do. (long coarse woolled) .....	5	0		4	6		4	6	
4th class (Scots) .....	4	6		4	6		4	4		4th do. (South Down) .....	5	4		4	8		4	10	
										Lambs .....	6	2		5	10		5	6	

N.B.—Price of Meat at the rate of 8 lbs. Avoirdupois to the stone, sinking the offal.

## CURRENCY.

## BANK OF ENGLAND.

*An Account, pursuant to the Act 7th and 8th Victoria, c. 32, for each Week ended on a Saturday, for the Second Quarter of 1853.*

[Compiled from the "London Gazette."]

## ISSUE DEPARTMENT.

Date.	Notes Issued.	Notes in hands of Public.	Government Debt.	Other Securities.	Gold Coin and Bullion.	Silver Bullion.
1853.	£	£	£	£	£	£
April 2 ...	32,570,030	22,387,170	11,015,100	2,984,900	18,550,876	19,154
" 9 ...	32,816,460	22,976,715	11,015,100	2,984,900	18,797,306	19,154
" 16 ...	32,519,885	23,613,165	11,015,100	2,984,900	18,500,731	19,154
" 23 ...	31,992,475	23,408,330	11,015,100	2,984,900	17,973,321	19,154
" 30 ...	31,808,965	23,124,555	11,015,100	2,984,900	17,789,811	19,154
May 7 ...	31,744,240	23,469,845	11,015,100	2,984,900	17,725,086	19,154
" 14 ...	31,591,025	23,162,805	11,015,100	2,984,900	17,571,871	19,154
" 21 ...	31,372,785	22,638,755	11,015,100	2,984,900	17,353,631	19,154
" 28 ...	31,453,890	22,581,030	11,015,100	2,984,900	17,434,736	19,154
June 4 ...	31,790,405	23,423,435	11,015,100	2,984,900	17,771,251	19,154
" 11 ...	31,991,065	23,083,080	11,015,100	2,984,900	17,971,911	19,154
" 18 ...	32,115,995	22,695,780	11,015,100	2,984,900	18,096,841	19,154
" 25 ...	32,194,885	22,631,560	11,015,100	2,984,900	18,175,731	19,154

## BANKING DEPARTMENT.

Date.	Proprietors' Capital.	Rest.	Public Deposits.	Other Deposits.	Seven Day and other Bills.	Total Dr.
1853.	£	£	£	£	£	£
April 2 ...	14,553,000	3,635,929	8,234,115	12,690,203	1,356,690	40,469,937
" 9 ...	14,553,000	3,106,886	4,733,108	14,933,897	1,469,737	38,796,628
" 16 ...	14,553,000	3,110,471	3,780,216	13,622,968	1,419,595	36,486,250
" 23 ...	14,553,000	3,114,339	3,712,989	13,206,923	1,412,479	35,999,730
" 30 ...	14,553,000	3,120,987	3,934,322	12,922,620	1,427,737	35,958,666
May 7 ...	14,553,000	3,146,809	4,265,469	12,201,614	1,418,032	35,584,924
" 14 ...	14,553,000	3,151,746	5,095,691	12,011,402	1,383,202	36,195,041
" 21 ...	14,553,000	3,156,577	5,815,477	11,953,498	1,326,133	36,804,685
" 28 ...	14,553,000	3,110,204	5,606,412	11,935,583	1,303,685	36,508,884
June 4 ...	14,553,000	3,106,195	4,635,454	12,902,839	1,390,023	36,587,511
" 11 ...	14,553,000	3,111,594	3,737,044	14,033,701	1,332,238	36,767,577
" 18 ...	14,553,000	3,114,532	4,615,831	13,174,519	1,307,045	36,764,927
" 25 ...	14,553,000	3,116,211	5,532,113	12,332,410	1,323,394	36,857,128

Date.	Government Securities.	Other Securities.	Notes.	Gold and Silver Coin.	Total Cr.
1853.	£	£	£	£	£
April 2 ...	13,464,538	16,385,120	10,182,860	437,419	40,469,937
" 9 ...	13,671,382	14,875,627	9,839,745	409,874	38,796,628
" 16 ...	13,221,382	14,085,037	8,906,720	273,111	36,486,250
" 23 ...	13,221,382	13,632,497	8,584,145	561,706	35,999,730
" 30 ...	13,221,382	13,506,745	8,684,410	546,129	35,958,666
May 7 ...	13,221,382	13,608,166	8,274,395	480,981	35,584,924
" 14 ...	13,124,653	14,014,176	8,428,220	627,992	36,195,041
" 21 ...	13,124,653	14,368,263	8,734,030	577,739	36,804,685
" 28 ...	13,124,653	14,021,714	8,871,860	490,657	36,508,884
June 4 ...	13,124,653	14,632,359	8,366,970	463,529	36,587,511
" 11 ...	13,124,910	14,246,232	8,907,985	488,450	36,767,577
" 18 ...	13,123,910	13,700,971	9,420,215	519,831	36,764,927
" 25 ...	13,118,010	13,705,389	9,563,325	470,404	36,857,128



## CURRENCY.—Continued.

## COUNTRY BANKS.

*Average amount of Promissory Notes in Circulation in England and Wales in each week, ended on a Saturday, for the First Quarter of 1853.—(Continued from page 96.)*

[Compiled from the "London Gazette."]

## ENGLAND AND WALES.

Date.	Private Banks.	Joint Stock Banks.	Total.
1853.			
Jan. 1.....	3,651,433	2,912,108	6,563,541
" 8.....	3,773,630	2,989,410	6,763,040
" 15.....	3,834,189	3,045,753	6,879,942
" 22.....	3,826,969	3,011,139	6,838,108
" 29.....	3,797,141	2,998,883	6,796,024
Feb. 5.....	3,744,785	2,976,548	6,721,333
" 12.....	3,669,947	2,946,939	6,616,886
" 19.....	3,710,947	2,961,956	6,672,903
" 26.....	3,649,567	2,961,645	6,611,212
Mar. 5.....	3,655,209	2,977,210	6,632,419
" 12.....	3,683,870	3,013,326	6,697,196
" 19.....	3,698,493	3,022,263	6,720,756
" 26.....	3,770,455	3,098,520	6,868,975

Fixed Issues—Private Banks, £4,655,619; Joint Stock Banks, £3,409,987.

*Average amount of Promissory Notes in Circulation in Scotland and Ireland during the Months ended the 22nd of January, the 19th of February, and the 19th of March, 1853.*

## SCOTLAND.

Date.	£5 and above.	Under £5.	Total.
1853.	£	£	£
Jan. 22.....	1,215,388	2,397,318	3,612,706
Feb. 19.....	1,211,296	2,328,685	3,540,001
Mar. 19.....	1,172,507	2,271,385	3,443,892

## IRELAND.

Date.	£5 and above.	Under £5.	Total.
1853.	£	£	£
Jan. 22.....	2,409,878	3,279,771	5,689,649
Feb. 19.....	2,405,439	3,275,997	5,681,436
Mar. 19.....	2,362,718	3,157,824	5,520,542

Fixed Issues—Scotland, £3,087,209; Ireland, £6,354,494.

## CURRENCY.—Continued.

## COUNTRY BANKS.

*Average amount of Promissory Notes in Circulation in England and Wales in each Week, ended on a Saturday, for the Second Quarter of 1853.*

[Compiled from the "London Gazette."]

ENGLAND AND WALES.			
Date.	Private Banks.	Joint Stock Banks.	Total.
1853.			
April 2.....	3,856,364	3,153,832	7,010,196
„ 9.....	3,919,239	3,167,999	7,087,238
„ 16.....	3,904,080	3,107,970	7,012,050
„ 23.....	3,930,417	3,130,370	7,060,787
„ 30.....	3,922,378	3,155,871	7,078,249
May 7.....	3,902,185	3,142,516	7,044,701
„ 14.....	3,891,116	3,113,781	7,004,897
„ 21.....	3,852,435	3,129,983	6,982,418
„ 28.....	3,765,844	3,054,761	6,820,605
June 4.....	3,720,005	2,997,487	6,717,492
„ 11.....	3,694,974	2,982,365	6,677,339

Fixed Issues—Private Banks, £4,655,619; Joint Stock Banks, £3,409,987.

*Average amount of Promissory Notes in Circulation in Scotland and Ireland during the Months ended the 16th of April, the 14th of May, and the 11th of June.*

SCOTLAND.			
Date.	£5 and above.	Under £5.	Total.
1853.	£	£	£
April 16.....	1,215,986	2,276,633	3,492,619
May 14.....	1,303,709	2,383,618	3,687,327
June 11.....	1,433,946	2,592,273	4,026,219

IRELAND.			
Date.	£5 and above.	Under £5.	Total.
1853.	£	£	£
April 16.....	2,435,756	3,079,876	5,515,632
May 14.....	2,539,682	2,968,864	5,508,546
June 11.....	2,511,754	2,854,413	5,366,167

Fixed Issues—Scotland, £3,087,209; Ireland, £6,354,494.



QUARTERLY JOURNAL  
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STATISTICAL SOCIETY.

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DECEMBER, 1853.

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*Analytical View of Railway Accidents.* By F. G. P. NEISON, Esq.,  
*Honorary Secretary.*

[Read before the Statistical Society, 18th April, 1853.]

THE unusual degree of public attention recently directed to the nature, cause, and extent of railway accidents, has induced me to submit the present paper to the consideration of the Society. The vital importance of the railway system to the commercial and social interests of this country, and its rapidly increasing magnitude, threatening to absorb every other means of intercommunication, render an investigation into the causes of accidents in railway traffic, and their effect on the loss of life and limb, one of no ordinary importance.

In order to accomplish as complete an analysis as possible of what will immediately appear to be a very complicated question, there has been embraced in the present inquiry the whole of the information contained in the documents issued by the Railway Department of the Board of Trade, from the 7th of August, 1840, until the most recent return, which brings the results down to the 1st of January, 1853.

Before entering into the inquiry as to the nature of accidents, it will be necessary to understand the extent of railway communication, and the degree to which the public have availed themselves of it.

The following table shows the number of miles open to traffic at various dates since the month of August, 1840 :—

TABLE I.

DATE.	Miles open to Traffic.	Periodical Increase of Railway Communication.
		Miles.
August, 1840 .....	1,330	
31st December, 1840 .....	1,556	226 (increase of 5 months).
„ 1841 .....	1,717	161 (increase of 1 year).
„ 1842 .....	1,857	140 „
„ 1843 .....	1,952	95 „
„ 1844 .....	2,148	196 „
30th June, 1845 .....	2,343	195 (half-yearly).
„ 1846 .....	2,765	422 (increase of 1 year).
„ 1847 .....	3,603	838 „
„ 1848 .....	4,478	875 „
„ 1849 .....	5,447	969 „
„ 1850 .....	6,308	861 „
„ 1851 .....	6,698	390 „
„ 1852 .....	7,076	378 „
31st December, 1852 .....	7,336	260 (half-yearly).

From the third column of the above table, it will be seen that the five years immediately succeeding the 30th of June, 1845, were a period of the greatest activity in the construction of railways, nearly 4,000 miles having been opened to traffic in that time, or upwards of one-half of the whole extent of railway communication. The maximum extent of railway opened for traffic in any one year was in 1849; since then much less activity has prevailed, and the number of miles opened has gradually declined every year down to 1852. However satisfactory this activity and energy in developing the railway system may appear, it still contrasts very disadvantageously with the progress of our neighbours in the United States of America. From the seventh census, printed by order of the House of Representatives, it appears that

ABSTRACT A.

	Number of Miles open to Traffic.	Number of Miles in Progress.	Total Miles.
On the 1st of January, 1852 ....	10,843	10,898	21,741
On the 1st of January, 1853 ....	13,266	12,681	25,947
Increase in 1 year ....	2,423	1,783	4,206

This active spirit of railway extension is not confined to one or two of the States; but appears to be to a greater or less extent characteristic of at least twenty-one of them.

The following table contains a large amount of information on the extent of passenger traffic on the railways of this country; viz.:—

- (a.) The average fare per mile for each class of passengers for each year since the 7th of August, 1840.
- (b.) The number of passengers of each class who have travelled during each year.
- (c.) And the amount of money received for passenger traffic from each class during each year.



TABLE II.

Date.	Average Fare per Mile, in Pence.				Number of Passengers.						Receipts in £.				
	1st Class.	2nd Class.	3rd Class.	Parv.	1st Class.	2nd Class.	3rd Class.	Parliamentary.	All Classes.*	1st Class.	2nd Class.	3rd Class.	Parliamentary.	All Classes.	Totals.
	1st Class.	2nd Class.	3rd Class.	Parv.	1st Class.	2nd Class.	3rd Class.	Parliamentary.	All Classes.*	1st Class.	2nd Class.	3rd Class.	Parliamentary.	All Classes.	
7th August to Dec. 31st, 1840	2.516	1.826	1.297	..	..	..	..	..	6,027,866	..	..	..	..	756,810	
June 30th, 1841	2.516	1.826	1.297	..	1,530,040	4,144,169	2,357,745	..	9,122,816	281,088	231,046	68,515	..	1,145,386	
1842	2.503	1.803	1.249	..	2,926,980	7,611,966	5,332,501	..	19,000,000	..	..	..	..	2,970,000	
1843	2.490	1.780	1.201	..	4,276,540	11,198,512	6,431,911	..	23,466,896	1,374,942	1,288,758	411,382	..	3,110,257	
Average Fare of the 4 years	2.506	1.809	1.261	..	8,733,560	22,954,647	14,122,157	..	57,617,578					7,982,453	Totals.
June 30th, 1844	2.349	1.639	1.145	..	4,875,332	12,235,686	8,583,085	..	27,763,602	1,432,658	1,375,679	483,069	..	3,439,294	
1845	2.212	1.588	.968	..	5,474,163	14,325,825	13,135,820	..	33,791,253	1,516,805	1,598,115	651,903	..	3,976,341	
1846	2.008	1.465	.953	.926	6,160,354	16,931,065	14,559,515	3,946,922	43,790,984	1,661,898	1,937,947	738,474	293,732	4,725,216	
1847	2.046	1.414	.877	.905	6,572,714	18,699,288	15,865,310	6,985,493	51,352,163	1,675,739	2,048,080	737,452	539,977	5,148,002	
Average Fare of the 4 years	2.143	1.529	.987	.916	23,082,563	62,191,864	52,143,736	10,932,415	156,698,002	6,287,150	6,959,821	2,621,898	833,709	17,288,853	Totals.
June 30th, 1848	2.089	1.695	.953	.939	7,190,779	21,690,510	15,241,529	13,092,489	57,965,070	1,792,533	2,352,153	661,038	902,851	5,720,382	
1849	2.217	1.614	.982	.952	7,078,690	23,392,450	14,378,376	15,432,457	60,398,159	1,889,646	2,502,588	651,366	1,059,786	6,105,975	
1850	2.183	1.584	.951	.933	7,734,728	24,226,668	15,547,749	19,249,974	66,840,175	1,969,247	2,594,817	688,407	1,211,634	6,465,576	
1851	2.103	1.531	.929	.913	9,175,781	28,933,044	16,990,073	23,820,723	78,969,623	2,212,799	2,847,469	714,480	1,402,593	7,177,341	
Average Fare of the 4 years	2.149	1.568	.953	.933	23,179,978	68,242,672	62,157,727	71,595,643	264,173,027	7,864,225	10,297,027	2,715,291	4,576,864	25,469,274	Totals.
June 30th, 1852	2.126	1.550	1.023	.905	10,143,442	30,967,913	15,642,137	20,973,553	86,758,997	2,339,971	3,010,921	662,230	1,809,163	7,984,652	
Dec. 31st, 1852	2.035	1.486	.947	.901	5,859,214	17,524,051	9,522,313	16,962,553	49,886,123	1,308,973	1,630,349	440,916	919,986	4,354,831	
									615,133,727					63,080,063	Grand Total.

\* All Classes is not the total of the four preceding columns, but includes Mixed Trains, and also Holders of Periodical Tickets.

From the above table it appears that, in the year ending the 30th June, 1842, the total number of passengers travelling by railways was 19,000,000; but in the year ending the 30th of June, 1852, just ten years after, the number of passengers was no less than 86,758,997, being an increase of about 457 per cent., while, in the same ten years, the number of miles of railway in operation had increased from 1,787 miles to 7,076 miles, being an increase of nearly 396 per cent., so that the passenger traffic has increased to a much greater extent than the line of railway communication.

With respect to the revenue from passenger traffic on railways, it is remarkably curious to observe the fluctuations in the receipts from the different classes. The parliamentary trains cannot be considered to have been in proper operation prior to the years 1846-7; and since then the following very striking fluctuations in the passenger traffic of each class manifests itself:—

## ABSTRACT B.

In the Year ending the	The Number of Passengers by the			
	First Class.	Second Class.	Third Class.	Parliamentary Class.
30th June, 1847 ....	6,572,714	18,699,288	15,865,310	6,985,493
30th June, 1852 ....	10,143,442	30,967,913	15,642,137	29,973,553
Increase of Traffic } per annum in the above 5 years ....	3,570,728	12,268,625	— 223,173	22,988,060
Or, an Increase in } each Class of ....	54·3 per cent.	65·6 per cent.	— 1·4 per cent.	329·1 per cent.

It thus appears that, while there has been a pretty uniform rate of increase, in the first and second classes, of 54·3 per cent. and 65·6 per cent. respectively, there has been actually a slight decrease in the number of passengers travelling by the third class carriages; in fact, it will be seen from the figures in Table II. preceding, that ever since the year 1846, the number of passengers travelling by third class carriages has been very uniform, notwithstanding that the line of railway communication has since then increased 156 per cent., the greatest number, in any one year, being 16,990,073, in 1851, and the least being 14,378,376, in 1849; but, viewed in connection with this, will be seen the wonderful increase in the number of persons travelling by the parliamentary trains: ranging from 6,985,493, in 1847, to no less than 29,973,553, in the year 1852, being an augmentation of 329·1 per cent. This very remarkable result in the increase of passengers by the parliamentary trains will be hereafter referred to; but it is now necessary to direct attention to the receipts from each of these classes.



## ABSTRACT C.

In the Year ending the	Receipts from the			
	First Class.	Second Class.	Third Class.	Parliamentary Class.
	£	£	£	£
30th June, 1847....	1,675,759	2,048,080	737,452	539,977
30th June, 1852....	2,389,971	3,010,921	662,230	1,809,163
Increase of Re- ceipts yearly in the above 4 years}	714,212	962,841	-75,222	1,269,186
Or, an Increase in each Class of ....}	42·7 per cent.	47·0 per cent.	-10·2 per cent.	235·00 per cent.

These results follow in somewhat the same order as those deduced in Abstract B, with regard to the number of passengers; but a further abstract of the facts furnished in Table II. is calculated to throw some additional light on the increase of receipts in recent years from the parliamentary trains.

## ABSTRACT D.

During the Years	Average Fare per Mile, in Pence.			
	First Class.	Second Class.	Third Class.	Parliamentary Class.
1840—43	2·506	1·809	1·261	
1844 .....	2·349	1·699	1·145	
1845 .....	2·212	1·588	·968	
1846 .....	2·008	1·465	·953	·926
1847 .....	2·046	1·414	·877	·905
1848 .....	2·089	1·695	·953	·939
1849 .....	2·217	1·614	·982	·952
1850 .....	2·183	1·584	·951	·933
1851 .....	2·103	1·531	·929	·913
1852 .....	2·126	1·550	1·023	·905

From this abstract it will be seen that, in the first and second classes the minimum rate of fares was charged in the years 1846-7, until which period the scale of charges pretty uniformly and gradually decreased; but since then they have fluctuated at considerably higher prices, and have recently shown a very decided tendency to increase.

It may be interesting to observe in this place, the difference in the rates of fares charged in different parts of the kingdom. The form of the returns of the railway department do not admit of this being done prior to the year 1850; and the following figures embrace, therefore, only the three years 1850-2:—

Place.	Average Fare per Mile during 1850-52, in Pence.			
	First Class.	Second Class.	Third Class.	Parliamentary Class.
England and Wales	2·257	1·567	0·983	·916
Scotland .....	2·022	1·565	1·120	·936
Ireland .....	1·698	1·298	0·751	·844

These results are calculated to throw some light on this branch of railway management. In Ireland, it will be seen, the fares are for every class less than in either England or Scotland. What is also worthy of remark is, the fact that in Ireland the fares for every class of passengers have, during the above three years, been uniformly decreasing, the rates, in 1852, being about 5 per cent. less in the first, and 8 per cent. less in the parliamentary class than they were in 1850. In Scotland, on the other hand, there has, in the same period, been a decided increase of fares in every class; while in England the fares in the second and third classes only, have increased. If the object of this paper admitted of an extension of this part of the inquiry, it would be important to trace the connexion of cheap fares and the fluctuations in the passenger traffic. The scale of fares on the Scotch lines is very peculiar. The first-class fares are intermediate between those for England and Ireland; the second class almost precisely the same as on the English lines, but quite 20 per cent. higher than those on the Irish lines; the third class fares are 14 per cent. above the English, and 49 per cent. above those of the Irish lines; and the parliamentary trains charge fares 2 per cent. above those of the English, and 11 per cent. above those of the Irish railways.

It is, however, in the parliamentary trains that the evident advantages and effects of cheap travelling are to be witnessed. Nothing can be more conclusive on this head, than the facts contained in Abstracts B and C; for if any evidence were wanted of the adaptation of the railway system to the locomotive necessities of the population of this country, it is furnished in the magical effects which the cheap and convenient parliamentary trains, stopping at every station, have had on the amount of passenger traffic since the years 1846-7, and the consequent increase of revenue to railway companies. But the introduction of parliamentary trains shows a still more wonderful result on the passenger traffic of recent years, and of a character but very imperfectly understood by even those supposed to be giving attention to railway matters. This interesting feature will be seen in the following table, in which will be found for each year—

- (a.) The total mileage of each class of passengers, deduced from the data contained in Table II.
- (b.) The average distance, or number of miles, travelled by passengers in each class; also
- (c.) The average distance travelled by all classes of passengers taken collectively; and,
- (d.) Finally, the total distance, or number of miles travelled in the aggregate by the whole of the passengers.



TABLE III.

DATE.	Total Mileage of each Class.				Average Distance Travelled by Passengers in each Class.				Average Distance by each Passenger without distinction of Class.	Total Distance Travelled (or Mileage) by all the Passengers collectively.
	First Class.	Second Class.	Third Class.	Parliamentary.	First Class.	Second Class.	Third Class.	Parliamentary.		
1840.....	....	....	....	....	....	....	....	....	17.5	105,487,661
1841.....	26,812,846	30,367,492	12,678,180	....	17.5	7.3	5.4	....	17.5	159,649,280
1842.....	....	....	....	....	....	....	....	....	17.5	332,500,000
1843.....	132,524,530	173,765,124	82,207,893	....	30.9	15.1	12.8	....	17.5	410,670,680
Total				....		....	....	....	....	1,008,307,621
1844.....	145,459,821	194,327,816	101,254,638	....	29.8	15.9	11.8	....	17.2	477,533,954
1845.....	119,364,014	241,528,715	161,628,843	....	21.8	16.9	12.3	....	15.9	537,280,923
1846.....	198,633,227	317,479,372	185,975,614	76,129,244	32.3	18.8	12.1	19.3	18.5	810,133,204
1847.....	196,667,722	347,623,197	201,811,266	143,198,320	31.4	18.6	12.7	20.5	18.7	960,285,448
Total	660,134,784	1,100,959,100	650,670,361	219,327,564	28.6	17.7	12.5	20.1	17.7	2,785,233,529
1848.....	205,939,646	333,048,212	166,473,368	230,760,639	28.6	15.3	10.9	17.6	16.3	944,830,641
1849.....	204,562,490	372,132,045	159,193,320	267,172,941	28.9	15.9	11.1	17.3	16.6	1,002,609,439
1850.....	216,499,899	393,154,091	173,730,473	311,674,341	28.0	16.2	11.2	16.2	16.4	1,096,178,870
1851.....	252,530,552	446,370,059	184,580,409	368,699,146	27.5	15.4	10.9	15.5	15.9	1,255,617,005
Total	879,533,587	1,544,704,407	683,977,570	1,178,307,067	28.2	15.7	11.0	16.4	16.3	4,259,235,955
1852.....	269,799,172	466,207,123	155,361,877	479,778,033	26.6	15.1	10.0	16.0	15.8	1,370,792,153

This table shows that the average distance travelled by the passengers of each class is yearly becoming less and less. This is observable in a remarkable degree in the second, third, and the parliamentary classes; and also to some extent in the first class. The following abstract gives a succinct view of these facts:—

ABSTRACT E.

During the Years	Average Distance in Miles travelled by Passengers in the				
	First Class.	Second Class.	Third Class.	Parliamentary Class.	All Classes.
1844—47 ....	28·6	17·7	12·5	20·1	17·7
1848—51 ....	28·2	15·7	11·0	16·4	16·3
1852 .....	26·6	15·1	10·0	16·0	15·8

The figures given in this abstract disclose the remarkable feature connected with the introduction of cheap fares, and which, at first sight, may appear anomalous, viz., that of passengers by the parliamentary trains, travelling greater distances than those by either the second or third class carriages. An examination, however, of the facts given in Table II, with regard to third class passengers, will help to throw some light on this result. It will be there seen that, ever since the year 1846, little or no change has taken place in the amount of the third class traffic; in fact, the obviously absurd plan in use in this country, of having four classes or grades of passengers, has had the effect of almost neutralizing the third class and substituting the parliamentary; but this is evidently not the only effect which the cheap parliamentary fares have had on the character of the passenger traffic. The upper and middle classes, for whom the first and second class modes of conveyance are more particularly designed, are so circumstanced in their travelling excursions, as to be called on to go greater distances than those to whom the lower fares are a necessity. The avocations, business arrangements, and social relations of the wealthy and the middle classes are generally such as to involve the necessity of travelling to greater distances, and hence we should naturally expect the lessening average distance of each journey as shown in Abstract E, with respect to the first, second, and third classes; but whence the amount of the increased distances travelled by the parliamentary class beyond that by either the second or third class? It will be found in the circumstance of the immense disparity between the fares of the parliamentary trains and those of the first and second class, which induces a large number of persons, going distant journies, to economise their expenses by the great saving in the prices of parliamentary trains. And this explanation will be fully understood by any one making a careful examination of the ninth column of Table II, and also the fifth column of Table III, in which it will be found, that during the year 1852 the traffic of the parliamentary class had so rapidly and so greatly increased, that



The total Mileage exceeded that of the Third Class by 324,416,156 miles.		
The total Mileage exceeded that of the First Class by 209,978,861 „		
The total Mileage exceeded that of the First and Third	} 54,616,984 „	
Classes united by.....		
And even exceeded the total Mileage of the Second	} 13,570,910 „	
Class by .....		

Nothing more is needed to show the growing importance of cheap fares, and whence arises the unexpected result of the prolonged average journeys in the parliamentary classes beyond all the other classes except the first. It might almost, from an inspection of Column 5, Table II, and the last column of Abstract D, be affirmed, that even railway directors are themselves beginning to understand the importance of parliamentary trains and cheap fares; for while the fares of every other class show a very decided tendency to increase, the scale of the parliamentary class has been gradually lowering ever since the year 1849; and the legitimate consequence of this decrease in the rate of charge has been an increase of the revenue of that class, both absolutely and relatively, to the receipts from the whole passenger traffic.

ABSTRACT F.

During the Years ending	Amount of Revenue from		
	All Classes.	Parliamentary Classes.	Ratio of Receipts in Parliamentary Class to all Classes.
	£	£	
30th June, 1849 ....	6,105,975	1,059,786	17·3 per cent.
30th June, 1852 ....	7,984,652	1,809,163	22·7 per cent.
Increase ....	1,878,677	749,377	

It thus appears, that no less than 22·7 per cent. of the whole revenue from passenger traffic arises from parliamentary fares.

Apart from their financial interest and value, some of the conclusions arising directly out of the preceding tables and abstracts are of immediate importance in questions hereafter arising in this paper.

- 1st. The fact that, while since the year 1842, the extent of railway communication has increased 396 per cent., the number of passengers has increased at the higher ratio of 457 per cent.
- 2nd. Although the total mileage has increased from 332,500,000 miles to no less than 1,370,792,153 miles per annum in the same period, still the average distance travelled by each passenger, taking all classes collectively, has decreased from 17·5 miles to 15·8 miles each journey; and,
- 3rd. Consequently, this modification in the traffic of passengers must be attended with an increased number of arrivals and departures from the various railway stations, relatively to the whole amount of passenger traffic; a circumstance which will be found to have an important bearing on some of the results to be hereafter discussed.

Much has of late been written on the causes of railway accidents, and an endless variety of suggestions have been offered for their prevention for the future; but, almost without a single exception, the whole of what has been written, and all the remedies proposed, appear to have originated from observations on isolated, or at all events on a very partial number of cases, and nothing like a fair attempt has been made to analyse the whole of the accidents, so as to show the numerical frequency of each kind, or its tendency to occasion loss of life or limb. Some, while urging the necessity of improvement in the use and management of signals, will be found to assume that nearly all the accidents are due to causes which the suggested improvements would remove. Others again, while adopting the same view to a greater or less extent, take for granted that the bulk of all the accidents assume the form of collisions, and not contenting themselves with the simple aid of the telegraph and other station signals, bring before the public new forms of breaks and other kindred appliances calculated to stop, in a speedy manner, trains while in motion. These, and many other modes of looking at railway accidents, may, and very likely will, lead to improvements; but it still will be found that the majority of accidents would still be left untouched, and a great deal would remain to be done before anything like a considerable reduction in them is effected. By looking at so important a subject from such partial points of view, very little benefit is to be hoped for; and under this conviction, it has been believed necessary, prior to entering on the consideration of remedies, to ascertain, as correctly as possible, the true nature, extent, and causes of the various kinds of accidents.

A little reflection will suffice to show that all railway accidents may be so classified as to exhibit them—

- 1st. In relation to causes directly connected with the state and condition of the road and permanent way; and,
- 2nd. As connected with the construction and management of the rolling stock, namely, engines, carriages, trucks, &c. And this last branch of the classification is susceptible of many subdivisions; for even assuming that the permanent way, locomotive machinery, and appliances, were perfect in construction and durability, a large class of accidents will be found to take place from causes involving the considerations of skill in the management of the various details in the government of a railway and the working of trains and signals.

In the following analysis of the accidents, an attempt has been made to effect such a classification of them as would admit of showing to what extent they were due to causes beyond the control of the respective companies; and also to exhibit in what degree they were due to causes falling within the control or management of the companies.

By this mode of inquiry, results, it is hoped, will be arrived at to enable the public to judge and to distinguish to what extent the frequently occurring accidents are susceptible of diminution, either by



the exercise of greater vigilance on the part of the railway staff and the employment of greater intelligence, or by bringing into more prominent view the defects in the construction and maintenance of the permanent way and the machinery, to arrive at conclusions suggestive of improvements.

In such an analysis, considerable care is needed as to the precise form or kind of cause under which the accidents should be arranged; for it is evident that the same general form of accident might be repeated over and over again, but in a slightly modified form in regard to some of its details, thus rendering it quite possible to make many subdivisions in the general class or cause. It must, however, be obvious that subdivisions of this kind might be carried so far as to deprive the results of any practical value, unless each embraced a sufficient group of facts from which conclusions could be drawn, not only as to the characteristic results of that particular class of accidents, but also as to the permanency of the connecting circumstances usually giving birth to them: no importance could be attached to such minute subdivisions. In order to avoid the evils which would result from any attempt to deduce general principles from observations on a distinctive group of accidents of small numerical value in itself, several such groups have in many cases been combined, having one or more points of common agreement. Keeping considerations of this kind closely in view, and never losing sight of the urgent necessity, that the results to be arrived at should have a strictly practical bearing and application, the analysis made has recognized twelve principal causes or rather conditions under which accidents have taken place, six of which are assignable to circumstances over which the companies have no direct or certain control; the other six embracing causes which fall directly under the control of the companies, their officers and servants.

Having thus decided on a mode of inquiry which was deemed calculated to exhibit with sufficient precision for practical purposes the causes of the various accidents, it next appeared important to adopt a separate and distinct classification of them as they affected passengers, as they affected the public not passengers for the time being, and as they affected the officers and different servants of railway companies.

As it was also of importance to determine the variations, if any, at different periods in the frequency of railway accidents from different causes, the results will be found given for each year, for each cause, and for each class of persons.

In the following eight tables will be found a detailed record of the number of persons killed, and the number injured, in each year since 1840, from each of twelve different causes.

Table IV. has reference to passengers only.

Table V. has reference to the public not passengers, very often the friends of passengers accompanying them to the station, or meeting them on arrival.

Table VI. has reference to trespassers on the lines.

Tables VII.—XI. inclusive, relate to the employés of the companies.

TABLE IV.—Number of Deaths and Injuries from various causes among PASSENGERS.

CAUSE.	Reference No.	1840.		1841.		1842.		1843.		1844.		1845.		1846.		1847.		1848.		1849.		1850.		1851.		1852.		Total.		
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Total.		
Collision .....	1	4	13	3	35	6	5	...	...	5	55	3	28	1	11	2	10	28	12	16	29	2	29	6	148	3	117	496		
Off line .....	2	9	27	5	7	...	...	...	...	3	3	...	12	...	17	5	18	12	5	18	18	...	18	9	48	...	17	202		
Running into station .....	3	1	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	35	54	
Axle breaking (d) .....	4	2	10	2	...	1	3	...	...	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	6	15	
Machinery ditto (e) .....	5	...	4	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	2	31	
Falling from train (c) .....	6	2	2	2	3	2	8	...	...	1	1	2	...	...	...	2	1	2	...	2	...	2	2	2	2	2	...	...	16	16
Jumping from ditto (b) .....	7	...	5	2	...	...	...	...	...	2	4	2	...	...	5	5	7	2	3	3	...	...	...	...	...	...	...	...	34	64
Run over (f) .....	8	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	22	2	
Collision at station .....	9	4	68	1	13	...	...	...	...	...	6	1	42	...	74	7	32	81	...	43	97	6	97	...	146	...	204	35	807	
Mounting train in motion (a) .....	10	...	1	1	2	2	2	2	2	1	1	2	2	2	4	3	1	3	1	6	3	8	6	5	10	10	3	39	43	
Crushed .....	11	2	5	...	14	...	...	...	...	...	...	...	...	...	...	2	23	...	...	...	...	...	...	...	...	...	...	5	5	
Miscellaneous .....	12	...	...	9	...	...	...	...	...	...	...	...	...	...	3	3	...	...	...	...	...	...	...	...	...	...	...	38	61	
Total .....	...	24	142	26	83	5	26	6	9	10	70	10	87	17	120	31	93	20	135	28	96	28	181	36	373	30	381	266	1,796	

TABLE V.—Number of Deaths and Injuries from various causes among PUBLIC BY THEIR OWN NEGLIGENCE.

CAUSE.	Reference No.	1840.		1841.		1842.		1843.		1844.		1845.		1846.		1847.		1848.		1849.		1850.		1851.		1852.		Total.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Total.	
Collision .....	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	63	
Off line .....	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	175	
Running into station .....	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	
Axle breaking .....	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	94	
Machinery ditto .....	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Falling from train .....	6	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Jumping from ditto .....	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Run over .....	8	4	1	7	5	8	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Collision at station .....	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Mounting train in motion .....	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Crushed .....	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Miscellaneous .....	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Total .....	...	4	2	7	6	8	2	10	4	16	9	8	8	15	7	21	5	3	10	5	9	31	9	23	5	8	175	63	



TABLE VII.—*Number of Deaths and Injuries from various causes among*  
ENGINE DRIVERS.

CAUSE.	Reference No.	1840.		1841.		1842.		1843.		1844.		1845.		1846.		1847.		1848.		1849.		1850.		1851.		1852.		Total.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Total.	
Collision .....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1		
Off line .....	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Running into station .....	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Axle breaking .....	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Machinery ditto .....	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Falling from train .....	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Jumping from ditto .....	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Run over .....	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Collision at station .....	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Mounting train in motion .....	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Crushed .....	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Miscellaneous .....	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Total .....	...	3	2	7	5	17	8	12	7	6	4	24	4	18	2	37	9	36	8	37	7	31	10	39	10	39	8	306	84

CAUSE.	Reference No.	1840.		1841.		1842.		1843.		1844.		1845.		1846.		1847.		1848.		1849.		1850.		1851.		1852.		Total.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Collision .....	1	..	4	..	..	..	..	..	..	2	2	2	2	1	3	1	4	1	5	1	2	1	2	..	1	5	6	13	
Off line .....	2	1	..	..	..	..	..	..	..	2	2	1	1	2	2	..	..	2	5	2	..	2	..	..	..	5	19	21	
Running into station .....	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	
Axle breaking .....	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Machinery ditto .....	5	..	..	..	..	..	..	..	1	..	..	..	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	
Falling from train .....	6	..	2	1	..	1	1	3	..	1	1	1	1	2	1	1	1	..	..	2	..	3	..	1	..	..	7	11	
Jumping from ditto .....	7	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	..	..	..	..	..	..	..	..	..	10	12	
Run over .....	8	..	..	..	2	1	2	..	..	..	..	..	..	..	..	3	1	..	..	..	..	..	..	..	..	..	3	5	
Collision at station .....	9	..	..	..	..	..	1	..	..	..	..	..	..	5	..	1	1	3	..	..	..	3	..	1	1	2	4	5	
Mounting train in motion .....	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	14	
Crushed .....	11	..	..	..	2	..	..	..	1	1	1	..	..	..	..	..	..	1	1	2	..	..	2	1	..	..	4	9	
Miscellaneous .....	12	..	..	..	..	..	..	1	..	2	1	..	..	..	..	1	..	..	..	3	..	1	2	1	..	..	10	..	
Total .....	...	1	6	1	4	2	4	3	4	7	6	3	5	7	14	11	6	11	8	6	8	4	11	5	11	10	73	94	





TABLE XI.—Number of Deaths and Injuries from various causes among OTHER SERVANTS.

CAUSE.	Reference No.	1850.		1841.		1842.		1843.		1844.		1845.		1846.		1847.		1848.		1849.		1850.		1851.		1852.		Total.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Total.	
Collision .....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..		
Off line .....	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Running into station .....	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Axle breaking .....	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Machinery ditto .....	5	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Falling from train .....	6	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Jumping from ditto .....	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Run over .....	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Collision at station .....	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Mounting train in motion ..	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Crushed .....	11	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Miscellaneous .....	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Total .....	..	1	..	4	3	3	2	8	4	6	4	6	2	7	7	12	4	10	6	13	8	9	5	19	11	19	9	117	65

CAUSE.	Reference No.	1840.		1841.		1842.		1843.		1844.		1845.		1846.		1847.		1848.		1849.		1850.		1851.		1852.		Total.	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Collision .....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Off line .....	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Running into station .....	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Axle breaking .....	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Machinery ditto .....	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Falling from train .....	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Jumping from ditto .....	7	1	1	2	1	2	1	1	1	3	1	1	1	2	3	4	1	1	1	2	1	1	1	2	1	1	1	1	
Run over .....	8	9	2	19	11	17	11	11	4	16	1	19	5	8	8	14	1	4	4	41	1	39	..	3	25	3	32	6	
Collision at station .....	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Mounting train in motion ..	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Crushed .....	11	2	3	..	3	3	2	2	2	..	1	3	2	2	6	4	5	5	9	6	8	3	3	4	4	6	..	35	
Miscellaneous .....	12	..	..	1	..	1	1	2	2	3	4	1	1	4	2	5	4	3	20	17	14	13	11	6	13	16	74	70	
Total .....	..	12	8	23	18	27	22	21	13	28	17	36	23	61	35	67	31	86	83	82	41	79	22	63	37	63	87	648	321

The following is a condensed summary of the results of the preceding eight tables:—

## ABSTRACT G.

*Deaths and Injuries amongst Different Classes, from all Causes, from the 7th August, 1840, to the 31st December, 1852.*

CLASS.	Killed.	Injured.	Ratio of Injured to Killed.
Passengers .....	266	1,796	675·20 per cent.
Public, by their own negligence .....	175	65	37·14 „
Trespassers .....	306	84	27·45 „
Engine Drivers .....	73	94	128·77 „
Stokers .....	116	123	106·04 „
Guards.....	127	100	78·74 „
Porters.....	117	65	55·56 „
Other Servants .....	648	321	49·54 „
Total .....	1,828	2,648	144·86 per cent.

The last column of this abstract shows in one respect a most remarkable difference in the way in which the accidents affect passengers and the servants of the companies. The number injured amongst passengers exceeds that killed by 675·20 per cent.; but amongst railway servants, the number of injuries falls short of the number of deaths, the ratio of injuries being almost exactly 65 per cent. of the deaths. The cause of this distinction will hereafter appear.

On referring to Table II. preceding, it will be found, that within the same period to which the facts of the preceding abstracts relate, the total number of passengers has amounted to 615,133,727. And, consequently,  $\frac{615,133,727}{266}$  or one in every 2,312,533 passengers has been killed since the 7th of August, 1840.

And in like manner  $\frac{615,133,727}{1,796}$  or one in every 342,502 passengers has sustained serious bodily injury in the same time. So that, if the causes which have hitherto prevailed in producing railway accidents should remain constant, the preceding ratios would measure the risk of life and limb in railway travelling.

The following table gives the result of Tables IV. to XI., in a more condensed form, by omitting the causes of the accidents.



TABLE XII.  
Total Number of Persons Killed and Injured on Railways.

	1840.		1841.		1842.		1843.		1844.		1845.		1846.		1847.		1848.		1849.		1850.		1851.		1852.		Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
Passengers .....	24	142	26	83	5	26	6	9	10	70	10	87	17	120	31	93	20	135	23	96	28	181	36	373	30	381	266	1,796
Public by their own Negligence)	4	2	7	6	8	2	10	4	16	9	8	8	15	7	21	5	8	2	10	5	21	2	23	5	24	8	175	65
Trespassers .....	3	2	7	5	17	8	12	7	6	4	24	4	18	2	37	9	36	8	37	7	31	10	39	10	39	8	306	84
Engine Drivers.....	1	6	1	4	2	4	3	4	7	6	3	5	7	14	11	6	6	11	6	8	4	11	11	5	11	10	73	94
Stokers .....	1	5	....	4	4	5	2	5	6	12	7	8	7	11	22	17	14	14	13	7	16	8	6	10	18	17	116	123
Guards .....	....	2	1	5	7	2	5	2	5	6	6	7	9	9	10	9	22	10	15	14	21	15	14	3	12	16	127	100
Porters .....	1	....	4	3	3	2	8	4	6	4	6	2	7	17	12	4	10	6	13	8	9	5	19	11	19	9	117	65
Other Servants.....	12	8	23	18	27	22	21	13	28	17	36	23	61	35	67	31	86	33	82	41	79	22	63	21	63	37	648	321
Total .....	46	167	69	128	73	71	67	48	84	128	100	144	141	205	211	174	202	219	199	186	209	254	211	438	216	486	1,828	2,648

The following condensed summary of this table, in so far as passengers are affected, shows, in a very satisfactory way, the gradual diminution of railway accidents.

## ABSTRACT H.

PERIOD.	Passengers.			Ratios.	
	Number.	Killed.	Injured.	One killed in	One injured in
1840-43.....	57,617,578	61	260	944,550	221,606
1844-47.....	156,698,002	68	370	2,304,382	423,508
1848-51.....	264,173,027	107	785	2,468,907	336,526
1852 .....	86,758,997	30	381	2,891,966	227,714

It thus appears that, while in the years 1840-43, there was 1 killed in every 944,550 passengers, there was, in the years 1848-51, only 1 in every 2,468,907 passengers, being not one death for two which happened in the earlier period.

So also will a reduction be found to have taken place in the ratio of passengers injured.

In like manner will Table XII. furnish the means by which to determine the relative number of railway servants killed and injured in the same periods; but it is proposed, in the first place, to keep to that part of the inquiry which affects the passengers only. This, although really the least important branch of the subject, so far as loss of life is concerned, is, notwithstanding, that in which the general public is most interested; and, as the daily and periodical press have recently taken up the matter so warmly, as complete an analysis of it will be given in this paper as the available facts and data will admit of being accomplished; and, in order to carry out this view, the whole of the materials have been re-arranged in the following eight tables, from which a very distinct and complete knowledge of the intensity of each cause in producing accidents among all the classes of persons observed upon, in each year, and throughout the whole period, may be obtained.

It will be seen from Tables XIV. and XV., that the number of deaths from railway accidents among the public, not being either passengers or employés, is much greater than amongst passengers merely.

The number of passengers killed, according to Table XIII., is 266.

The number killed of the public (neither passengers nor employés), by their own negligence, and of trespassers, is 481.

But the consideration of the last group of deaths will be likewise reserved for discussion in the latter part of this communication.



TABLE XIII.  
*Number of Deaths and Injuries from various causes among PASSENGERS.*

Years.	Collision.		Off Line.		Running into Station.		(d) Axle Breaking.		(e) Machinery Breaking.		(c) Falling from Train.		(b) Jumping from Train.		(f) Run Over.		Collision at Station.		(a) Mounting Train in Motion.		Crushed.		Miscellaneous.		Years.	Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.			
1840..	4	13	9	27	1	7	2	10	..	4	2	2	..	5	..	..	4	68	..	1	2	5	..	..	1840..	142	
1841..	3	35	5	7	..	..	2	..	1	1	3	8	..	8	..	..	1	13	1	2	..	..	14	..	1841..	83	
1842..	..	6	..	5	..	..	1	3	..	..	2	2	..	8	..	..	..	..	2	2	..	..	..	..	1842..	26	
1843..	..	..	..	..	..	..	..	..	..	..	1	5	1	5	..	..	1	1	2	2	..	..	..	..	1843..	9	
	7	54	14	39	1	7	5	13	5	5	4	8	3	26	1	..	6	82	5	7	2	5	13	14		260	
1844..	5	55	..	3	..	..	1	..	..	..	1	4	2	4	..	..	..	6	1	2	..	..	..	..	1844..	70	
1845..	3	28	..	12	..	..	..	..	..	..	2	..	2	3	..	..	1	42	2	4	..	..	..	..	1845..	87	
1846..	1	11	..	17	..	..	..	1	1	1	..	9	5	9	..	..	3	74	2	4	..	..	3	..	1846..	120	
1847..	2	10	5	18	..	..	..	..	2	2	1	7	5	7	1	..	7	32	3	1	2	..	22	..	1847..	93	
	11	104	5	50	..	..	1	1	2	3	5	2	14	23	1	..	11	154	8	8	2	..	8	25		370	
1848..	..	28	2	12	..	5	..	..	..	..	1	2	2	3	3	1	7	81	3	1	..	..	2	2	1848..	135	
1849..	..	16	5	18	..	..	..	..	6	6	1	3	1	3	5	..	..	43	5	6	..	..	5	4	1849..	96	
1850..	2	29	..	18	..	8	..	..	7	7	2	2	8	1	4	1	6	97	3	8	..	..	3	10	1850..	181	
1851..	6	148	9	48	..	1	..	..	10	10	2	2	4	4	4	..	3	146	5	10	1	..	2	4	1851..	373	
	8	221	16	96	..	14	..	..	23	23	7	6	15	11	16	2	16	367	16	25	1	..	12	20		785	
1852..	3	117	..	17	4	33	..	1	..	..	..	..	2	4	4	..	2	204	10	3	..	..	5	2	1852..	381	
Totals	29	496	35	202	5	54	6	15	2	31	16	16	34	64	22	2	35	807	39	43	5	5	38	61	Grand Total }	266	1,796

TABLE XIV.  
*Number of Deaths and Injuries from various causes among  
 PUBLIC BY THEIR OWN NEGLIGENCE.*

Years.	Collision.		Off Line.		Running into Station.		Axle Breaking.		Machinery Breaking.		Falling from Train.		Jumping from Train.		Run Over.		Collision at Station.		Mounting Train in Motion.		Crushed.		Miscellaneous.		Years.	Total.
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		
1840..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	4	1	..	..	..	..	..	..	..	..	1840..	4
1841..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	5	..	..	..	..	..	..	..	..	..	1841..	7
1842..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	1842..	8
1843..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	1843..	10
	..	..	..	..	..	..	..	..	..	..	3	..	..	..	10	..	..	..	..	..	..	..	..	..		14
1844..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	3	..	..	..	1	..	..	..	..	..	1844..	16
1845..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	4	..	..	..	1	..	..	..	..	..	1845..	8
1846..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	6	..	..	..	..	..	..	..	..	..	1846..	15
1847..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	1847..	21
	..	..	..	..	..	..	..	..	..	..	6	3	4	1	16	1	..	..	1	..	1	..	4	9		60
1848..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1848..	8
1849..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1849..	10
1850..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1850..	21
1851..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1851..	23
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	1	1	2	1	11	14		62
1852..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	..	2	..	1	1	8	8		24
Totals	..	..	..	..	..	..	..	..	..	..	6	6	4	1	133	29	..	..	3	1	4	2	25	26	Grand Total}	175



TABLE XV.  
*Number of Deaths and Injuries from various causes among  
TRESPASSERS.*

Years.	Collision.		Off Line.		Running into Station.		Axle Breaking.		Machinery Breaking.		Falling from Train.		Jumping from Train.		Run Over.		Collision at Station.		Mounting in Train Motion.		Crushed.		Miscellaneous.		Years.	Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.
1840..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	2	6	..	..	..	..	1	..	..	..	1840..	3	2
1841..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	..	1841..	7	5
1842..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	5	..	..	..	..	..	..	..	..	1842..	17	8
1843..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	5	..	..	..	..	..	..	2	..	1843..	12	7
1844..	..	..	..	..	..	..	..	..	..	..	6	..	1	..	31	15	..	..	..	..	1	..	2	..	1844..	39	22
1845..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	5	..	..	..	..	..	..	..	..	..	1845..	6	4
1846..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	22	3	..	..	..	1	..	..	..	..	1846..	24	4
1847..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	16	1	..	..	..	..	..	..	..	..	1847..	18	2
1848..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	37	8	..	..	..	..	..	..	..	..	1848..	37	9
1849..	..	..	..	..	..	..	..	..	..	..	3	..	2	..	80	12	..	..	1	..	..	..	1	..	1849..	85	19
1850..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	31	4	..	..	1	1	1	1	3	3	1850..	36	8
1851..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	34	..	..	..	..	..	2	..	..	5	1851..	37	7
1852..	..	1	..	..	..	..	..	..	..	1	..	..	1	1	26	3	..	..	..	..	2	..	5	3	1852..	31	10
1853..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	30	7	..	..	..	..	2	..	7	16	1853..	39	10
1854..	..	..	..	..	..	..	..	..	1	..	1	1	1	1	121	14	..	..	2	2	7	..	7	16	1854..	143	35
1855..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	36	4	..	..	..	..	1	1	..	3	1855..	39	8
Totals	..	1	..	..	..	..	..	..	1	..	8	10	1	4	268	45	..	..	10	3	9	1	9	20	Grand Total }	306	84

TABLE XVI.  
*Number of Deaths and Injuries from various causes among  
 ENGINE DRIVERS.*

Years.	Collision.		Off Line.		Running into Station.		Axle Breaking.		Machinery Breaking.		Falling from Train.		Jumping from Train.		Run Over.		Collision at Station.		Mounting Train in Motion.		Crushed.		Miscellaneous.		Years.	Total.
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		
1840..	..	4	..	..	1	..	..	..	..	..	2	..	..	..	..	2	..	..	..	..	..	..	..	..	1840..	6
1841..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1841..	4
1842..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	2	..	..	1	..	..	..	..	..	1842..	4
1843..	..	..	..	..	..	..	..	..	1	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	1843..	4
	..	4	..	..	1	..	1	..	1	..	6	..	..	..	4	..	..	..	1	1	..	..	3	..		18
1844..	2	..	2	1	..	1	..	2	..	1	1	..	..	..	..	..	..	1	..	..	1	2	1	..	1844..	6
1845..	..	2	2	1	..	..	1	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1845..	5
1846..	1	2	3	2	..	2	..	1	..	2	1	..	..	..	..	..	5	..	..	..	..	..	..	..	1846..	14
1847..	1	1	4	3	..	1	..	..	..	1	1	..	1	..	3	1	..	..	..	..	..	1	..	..	1847..	6
	4	5	11	7	..	4	..	4	..	4	4	2	2	2	3	1	2	5	..	..	1	3	1	..		31
1848..	1	..	2	5	..	1	1	1	1	1	..	1	..	..	..	..	3	1	1	..	1	..	..	..	1848..	11
1849..	1	2	2	..	..	..	2	2	2	2	..	..	..	..	..	..	..	3	..	..	2	3	2	..	1849..	8
1850..	..	1	..	2	..	..	..	3	..	3	..	..	..	..	..	..	1	3	..	..	..	1	2	..	1850..	11
1851..	..	..	1	2	..	..	..	1	2	1	..	..	..	..	..	..	..	1	..	..	2	2	1	..	1851..	5
	2	3	5	9	..	7	5	7	5	7	..	1	..	..	..	..	7	7	2	..	3	6	5	..		35
1852..	..	1	3	5	..	..	..	1	1	..	2	1	1	..	..	..	3	2	1	..	..	1	..	..	1852..	10
Totals	6	13	19	21	1	11	7	11	7	11	12	3	3	3	4	5	6	14	4	1	3	4	10	9	Grand Total	94



TABLE XVII.  
*Number of Deaths and Injuries from various causes among STOKERS.*

Years.	Collision.		Off Line.		Running into Station.		Axle Breaking.		Machinery Breaking.		Falling from Train.		Jumping from Train.		Run Over.		Collision at Station.		Mounting Train in Motion.		Crushed.		Miscellaneous.		Years.	Total.
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		
1840..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	5	..	..	..	1840..	1
1841..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1841..	4
1842..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1842..	5
1843..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1843..	5
	1	1	..	..	..	..	..	..	..	..	2	8	..	1	3	2	..	..	1	..	5	..	2	..		19
1844..	..	2	1	1	..	..	..	..	1	2	2	3	..	..	..	..	..	..	..	..	2	2	2	..	1844..	6
1845..	1	1	1	1	..	..	..	..	..	1	2	2	..	..	..	..	..	..	..	..	..	1	..	..	1845..	8
1846..	..	1	1	2	..	..	..	..	..	1	..	..	1	..	..	1	4	2	..	..	..	1	1	..	1846..	7
1847..	1	1	1	4	..	..	..	..	1	2	..	4	1	..	2	1	2	2	1	..	1	4	2	..	1847..	17
	2	5	4	8	..	..	..	..	3	6	11	9	3	..	3	2	2	8	1	1	4	5	8	..		48
1848..	..	2	1	3	..	..	..	..	2	1	4	..	1	1	2	1	..	2	..	..	4	3	1	..	1848..	14
1849..	1	..	2	..	..	..	..	..	3	..	3	4	..	..	..	..	1	2	1	..	..	2	2	..	1849..	7
1850..	1	..	..	1	..	..	..	..	2	1	5	1	1	..	2	..	1	2	..	..	..	4	..	..	1850..	8
1851..	1	..	..	1	..	..	..	..	..	1	2	1	..	..	..	..	..	2	..	..	1	..	3	..	1851..	10
	3	2	5	5	..	1	..	..	7	3	14	6	2	2	4	1	2	6	2	1	5	6	5	6		39
1852..	2	1	4	3	..	..	..	..	1	1	1	3	..	1	1	..	1	4	3	1	3	2	2	1	1852..	17
Totals	8	9	13	16	..	1	..	..	11	10	28	26	5	4	11	5	5	18	7	3	13	17	15	14	Grand Total	123

TABLE XVIII.  
*Number of Deaths and Injuries from various causes among GUARDS.*

Years.	Collision.		Off Line.		Running into Station.		Axle Breaking.		Machinery Breaking.		Falling from Train.		Jumping from Train.		Run Over.		Collision at Station.		Mounting Train in Motion.		Crushed.		Miscellaneous.		Years.	Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.
1840..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	2	..	1	1840..	..	2
1841..	..	..	..	..	..	..	..	..	..	..	2	..	..	1	..	1	..	..	..	..	..	..	1	..	1841..	1	5
1842..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1842..	7	2
1843..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1843..	5	2
	..	..	..	..	..	..	..	..	..	..	5	5	1	..	1	1	..	..	..	..	1	2	5	3		13	11
1844..	..	1	..	2	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	4	4	1844..	5	6
1845..	..	1	..	3	..	..	..	..	..	1	4	..	..	..	1	..	..	..	..	..	..	..	2	2	1845..	6	7
1846..	..	..	..	1	..	..	..	..	..	1	4	1	..	..	2	..	1	1	..	..	1	1	2	2	1846..	9	9
1847..	2	1	..	1	..	..	..	..	..	..	2	2	..	..	..	..	..	2	1	..	2	..	..	..	1847..	10	9
	2	3	1	6	..	..	..	..	2	..	11	5	..	..	3	1	1	3	1	..	3	3	9	8		30	31
1848..	..	3	2	1	..	..	..	..	..	2	4	1	1	..	2	..	..	1	..	..	1	..	8	2	1848..	22	10
1849..	..	..	..	..	..	..	..	..	..	1	6	4	..	..	1	..	..	..	2	1	4	4	4	4	1849..	15	14
1850..	1	..	..	..	1	..	..	..	1	1	8	..	..	..	3	1	..	4	2	2	1	1	3	5	1850..	21	15
1851..	..	..	..	1	..	..	..	..	..	..	2	..	..	..	2	..	2	..	1	..	..	..	2	2	1851..	14	3
	1	3	2	2	..	1	..	..	1	4	20	5	1	..	8	1	3	5	3	9	5	10	17	13		72	42
1852..	..	2	3	3	..	..	..	..	..	..	1	2	..	..	1	1	..	..	..	..	1	2	6	6	1852..	12	16
Totals	3	8	6	11	..	1	..	..	1	6	37	17	2	..	13	4	4	8	10	3	14	12	37	30	Grand Total	127	100



TABLE XIX.  
*Number of Deaths and Injuries from various causes among PORTERS.*

Years.	Collision.		Off Line.		Running into Station.		Axle Breaking.		Machinery Breaking.		Falling from Train.		Jumping from Train.		Run Over.		Collision at Station.		Mounting Train in Motion.		Crushed.		Miscellaneous.		Years.	Total.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		Killed.	Injured.
1840..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	1840..	1	..	
1841..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	1841..	4	..	
1842..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	1	..	..	..	1842..	3	..	
1843..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	1	1	1843..	8	..	
1844..	..	..	..	..	..	..	..	..	..	..	3	2	1	..	2	1	1	..	1	..	6	3	2	1	1844..	16	9
	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	3	1	..	..	2	..	..	..	1845..		6	4
	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	1	1	..	..	1846..		7	2
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	3	1	..	..	1847..		12	4
1848..	..	..	1	..	..	..	..	..	..	..	4	..	3	..	7	5	2	4	1	..	10	3	4	4	1848..	31	17
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	1	4	4	..	1	1849..		10	6
	..	..	..	..	..	..	..	..	..	..	1	1	..	..	6	..	..	..	..	4	3	1	4	1850..		13	8
	..	..	1	..	..	..	..	..	..	..	..	2	..	..	4	..	1	..	..	2	2	5	5	1851..		9	5
1852..	..	..	1	..	..	..	..	..	..	..	2	3	1	1	16	..	1	1	2	4	18	10	8	13	1852..	51	30
	..	..	..	1	..	..	..	..	..	..	1	..	1	1	6	1	1	1	..	7	2	1	3	19		9	
Totals	..	..	1	2	..	..	..	..	..	..	10	5	6	2	31	7	4	7	9	3	41	18	15	21	117	65	

TABLE XX.  
*Number of Deaths and Injuries from various causes among  
 OTHER SERVANTS.*

Years.	Collision.		Off Line.		Running into Station.		Axle Breaking.		Machinery Breaking.		Falling from Train.		Jumping from Train.		Run Over.		Collision at Station.		Mounting Train in Motion.		Crushed.		Miscellaneous.		Years.	Total.
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		
1840..	..	..	..	..	..	..	..	..	..	..	2	1	1	9	2	..	..	..	..	..	3	2	..	..	1840..	12
1841..	..	..	..	1	..	..	..	..	..	..	1	2	2	19	11	..	..	..	..	..	3	3	1	..	1841..	23
1842..	..	2	..	..	..	..	..	..	..	..	3	1	1	17	11	..	..	..	2	2	2	1	1	1842..	27	
1843..	..	1	..	..	..	..	..	..	..	..	2	1	..	11	4	..	..	..	2	2	2	4	2	2	1843..	21
	..	3	..	1	..	..	..	..	..	..	8	4	6	56	28	..	..	4	4	10	9	2	3		61	
1844..	..	5	1	1	..	..	..	..	..	..	3	1	3	16	1	1	..	1	1	1	1	1	3	4	1844..	28
1845..	1	1	2	9	..	..	..	..	3	..	2	1	1	19	5	..	..	2	2	2	2	2	1	1	1845..	36
1846..	1	10	..	2	..	..	1	..	1	3	1	3	2	42	8	..	1	2	2	2	2	3	4	2	1846..	61
1847..	..	..	2	4	..	..	..	..	..	..	2	2	5	38	14	..	1	..	..	1	8	1	2	5	1847..	67
	2	16	5	16	..	..	2	1	4	3	17	8	11	115	28	1	2	5	5	6	12	6	10	12		106
1848..	1	10	..	..	..	..	..	..	3	3	10	1	1	45	4	5	1	3	3	5	5	4	3	3	1848..	86
1849..	1	3	..	..	..	..	..	..	1	1	3	5	1	41	1	..	..	5	5	8	9	20	17	41	1849..	82
1850..	1	..	..	..	..	..	..	..	1	1	5	3	1	39	..	..	1	2	2	1	13	1	14	13	1850..	79
1851..	1	..	1	..	..	..	2	..	..	1	8	1	1	25	3	2	..	4	4	4	9	4	11	6	1851..	63
	4	13	1	..	..	2	..	1	6	1	26	10	7	150	8	7	2	14	14	18	45	18	49	39		117
1852..	5	2	..	..	..	..	..	..	..	1	4	5	..	32	6	..	6	..	..	6	..	13	16	37	1852..	63
Totals	11	34	6	17	..	4	1	5	10	10	56	31	24	353	70	8	10	23	35	72	34	74	70	Grand Total	321	



The preceding eight tables have been given in the present very complete form, so as to admit of other inquirers who may happen to take a different view of the manner in which the subject should be treated, to make new combinations for themselves. The following Table, XXI., on next page, shows, for three different periods of years, the ratio of the mortality per cent. from each cause to the mortality from all causes; and, so far as passengers are concerned, some of the results are rather curious.

It will be seen from the first section of this table, that the deaths of passengers from collisions, and from trains running off the line, which constitute a large portion of the whole, have been gradually diminishing, while deaths from passengers falling from the trains have scarcely varied. Again, the deaths from axles breaking, in the four years 1840-3, formed 8 per cent. of the whole deaths in that period; but, since the year 1844, not a single death of a passenger has taken place assignable to that cause. And in regard to deaths from the breaking of other parts of the machinery none have happened since 1847.

In the latter part of 1840, one death of a passenger was occasioned by the running of a train into the station; but no other since that time, although 21 have been injured from the same cause at different periods. The deaths of passengers from collisions at stations increased subsequent to 1843, and have since remained nearly uniform at about 15 per cent. of the deaths from all causes.

The deaths occasioned by passengers jumping from trains while in motion have increased in a very remarkable manner ever since 1840, as well as the deaths from passengers mounting trains while in motion.

Results of the kind now enumerated, although given in strict accordance with the methods of many statistical inquirers, are, if given in such form only, liable to a serious objection, for in every case where the intensity of a variety of causes is being measured, the pressure of any one or more of the causes might actually be remaining constant, while the form of the preceding table is capable of making them appear as increasing or decreasing in intensity, and *vice versa*, the intensity of the same causes might in reality be undergoing great modifications, and at the same time appear uniform in the table. An attentive consideration of the principle on which the table is constructed will show this to be the case; and the actual facts contained in it furnish an excellent illustration of these remarks. It will be seen that, in the period 1848-51, no deaths have taken place among passengers from the causes placed third, fourth, and fifth in order; and the immediate effect of the exclusion of deaths from these causes is to give an apparent augmentation of intensity to the remaining causes in operation in that period; a similar effect would also be produced, although not in degree the same, by any fluctuations whatever in the intensity of one or more of the causes. The proper use of such a table as that now under consideration, is to direct attention to the fact of disturbing causes being in operation, but not to measure the degree or exact extent of the intensity of each cause, which must be determined by a different method.

It is not easy, in a short paper, to follow a course of argument keeping clearly in view the many fluctuations in the ratios of deaths among a great variety of causes; but it is obvious, that a number of

TABLE XXI.

*Ratio of Mortality Per Cent. from each cause, to the Mortality from all causes, among each Class of Persons.*

CAUSE.	Passengers.			Public by their own Negligence.			Trespassers.			Engine Drivers.		
	1840—43.	1844—47.	1848—51.	1840—43.	1844—47.	1848—51.	1840—43.	1844—47.	1848—51.	1840—43.	1844—47.	1848—51.
Collision .....	11.48	16.18	7.48	...	...	...	...	...	...	...	14.29	7.41
Off line .....	22.95	7.35	14.95	...	...	...	...	...	...	...	39.29	18.52
Running into station...	1.64	...	...	...	...	...	...	...	...	14.28	...	...
Axle breaking .....	8.19	1.47	...	...	...	...	...	...	...	...	...	...
Machinery ditto .....	...	2.94	...	...	...	...	...	...	...	...	...	...
Falling from train .....	6.56	7.35	6.54	...	10.00	...	12.82	...	.70	14.29	...	18.52
Jumping from ditto .....	4.92	20.60	14.02	...	6.67	...	...	2.35	.70	42.86	10.71	11.11
Run over .....	1.64	1.47	14.95	100.00	73.33	75.81	...	94.12	.70	...	7.14	...
Collision at station .....	9.84	16.18	14.95	...	...	...	79.49	...	84.61	14.28	10.71	...
Mounting train in } motion .....	8.19	11.76	14.95	...	1.67	...	...	...	...	...	7.15	3.70
Crushed .....	3.28	2.94	.94	...	1.67	3.22	...	3.53	3.49	14.29	...	7.41
Miscellaneous .....	21.31	11.76	11.22	...	6.66	20.97	2.56	...	4.90	...	...	11.11
							5.13	...	4.90	...	10.71	22.22

CAUSE.	Stokers.			Guards.			Porters.			Other Servants.		
	1840—43.	1844—47.	1848—51.	1840—43.	1844—47.	1848—51.	1840—43.	1844—47.	1848—51.	1840—43.	1844—47.	1848—51.
Collision .....	14.29	4.76	6.12	...	6.67	1.39	...	...	...	...	1.04	1.29
Off line .....	...	9.52	10.21	...	3.33	2.78	...	...	1.96	...	2.60	.32
Running into station...	...	...	...	...	...	...	...	...	...	...	...	...
Axle breaking .....	...	...	...	...	...	...	...	...	...	...	...	...
Machinery ditto .....	...	7.14	14.28	...	...	1.39	...	...	...	...	1.04	.64
Falling from train .....	28.57	26.20	28.57	38.46	36.67	27.77	18.75	12.90	3.92	10.84	8.86	.32
Jumping from ditto ..	...	7.14	4.08	7.69	...	1.39	6.25	9.68	1.96	7.23	5.73	8.39
Run over .....	42.85	7.14	8.16	7.69	10.00	11.11	12.50	22.58	31.37	67.47	59.90	2.26
Collision at station .....	...	4.76	4.08	...	3.33	4.17	...	6.45	1.96	...	.52	48.39
Mounting train in } motion .....	14.29	2.38	4.08	...	3.33	12.50	12.50	3.23	7.84	1.21	6.77	2.26
Crushed .....	...	11.91	10.21	7.70	6.67	13.89	37.50	32.26	35.30	10.84	6.25	5.81
Miscellaneous .....	...	19.05	10.21	38.46	30.00	23.61	12.50	12.90	15.69	2.41	5.21	15.81



the circumstances, under which railway accidents have taken place, are for many purposes susceptible of the very simple classification already more than once alluded to.

A large number of the deaths are assignable to causes over which it is evident the directors and managers have little, if any, control, such as—

- (a.) Passengers mounting trains while in motion.
- (b.) Passengers jumping from trains while in motion.
- (c.) Passengers falling from trains while in motion.
- (d.) Axles breaking.
- (e.) Machinery breaking.
- (f.) Passengers being run over.

And if all the remaining causes in the preceding tables were placed to the credit of the management of railways, and held as coming in some measure under the control of the railway officers and servants of the companies, little exception can be taken to the classification on the ground that it is calculated to underrate their responsibilities.

The following abstract will show the results thus arrived at:—

ABSTRACT I.

CAUSES.	Number of Passengers.	
	Killed.	Injured.
(A) Beyond control of the Companies .....	119	171
(B) Under control of the Companies (including miscellaneous group) .....	147	1,625
Ratio per cent. of (A) to the whole .....	44·7	9·5
Ratio per cent. of (B) to the whole .....	55·3	90·5

It will thus be seen, that about 44·7 per cent. of all the deaths has taken place from causes over nearly all of which the passengers themselves have control, the exception being the eight deaths included in causes (d) and (e), and for which the companies can scarcely be in any way held responsible. But in regard to the injuries, 9·5 per cent. only of the accidents are so circumstanced, which calls attention to a very remarkable feature in the results now under consideration.

- (a.) The deaths from causes beyond the control of the companies form 69·6 per cent. of the number of injuries from the same causes.
- (b.) The deaths from causes under the control of the companies are 9 per cent. of the number of injuries from the same causes; and

Hence the tendency of accidents, which may be considered to arise from details of management, is to inflict bodily injury rather than to occasion death; for in respect to every 100 injuries, 9 deaths take place from corresponding causes, while among the accidents due to causes within the influence of the passengers themselves, for every 100 injuries nearly 70 deaths occur.

This method of stating the results naturally leads to the inquiry, Do the accidents, falling within the class of causes assumed to come under the control of the companies, increase or diminish?





There is here evidence, not only of a great diminution of all kinds of accidents to passengers, but, what is exceedingly satisfactory, of those accidents which are due to causes assumed to be under the control of the companies, in a very remarkable degree compared with the remaining class of accidents.

For while deaths from causes beyond the control of the companies have, between the periods 1840-43 and 1848-51, diminished in the ratio of 49 to 30, those from causes under the control of the companies have diminished in the ratio of 64 to 19. This result is certainly one not generally understood by the public, for not only are all railway accidents supposed to be very much on the increase, but, those due to details of management, are believed to be rapidly and alarmingly so. The facts of the case do not support this view, for they disclose the truth, that railway management, so far as accidents producing deaths among passengers are concerned, has greatly improved, and apparently in a steady and high ratio.

In the period 1840-43	the deaths from causes under the control of the Companies	{	= One in 1,920,585 Passengers.	
„ 1844-47			= „ 5,403,379	„
„ 1848-51			= „ 6,443,244	„

So that this class of accidents has since diminished to about 30 per cent. of its frequency and magnitude in the year 1843.

These results, viewed in connection with those of Abstract H, give birth to some interesting considerations. If regard be had to the causes of railway accidents, so far as they can be controlled by the companies, it is obvious that the increasing extent and complicated system of the railway communication, as it now exists in its ramified arteries over the country, together with the modifications in passenger traffic of recent years, enumerated in Clauses 1st, 2nd, and 3rd, of page 297, would, unless greatly improved management were keeping pace with the growing extent of railway traffic, lead to an immense increase in the number of accidents, not only absolutely, but relatively to the amount of that traffic.

If, therefore, the results of Abstracts H and K be borne in mind, which shows that the loss of life among passengers, from all causes, has decreased in recent years, and while it is, at the same time, evident that the class of deaths which has taken place, from causes under the control of the companies, has, in relation to the whole of these reduced deaths, been subject, year after year, to a greatly increased rate of reduction, as shown in Abstract K, every one must, notwithstanding the present popular outcry, be satisfied that means and influences are actively at work which are daily increasing the safety of life in railway travelling. Whether this change be due to the better general regulations enforced by the directors of the companies, or to the improved skill and intelligence of their officers and servants, still the results of this inquiry afford the most striking testimony, from the recent improvements and increased safety in railway travelling, that the same means will be persevered in to effect a still further reduction in the frequency and intensity of railway accidents.

An inspection of Tables XIII. and XXI. will show the relative number of deaths arising from each cause; and, in regard to those





the companies, they have been thought of sufficient importance to justify a very minute analysis of them, with the view of pointing out the peculiar circumstances under which they usually take place, and thereby to be suggestive of means for their prevention for the future.

In this part of the inquiry, it has been found impossible to pursue the subject further back than the beginning of 1844; and, therefore, the observations will be confined to the nine years 1844—52 inclusive. Collisions, as may be easily supposed, take place under a great variety of circumstances; and it is often a difficult matter to arrange them under any well defined system of classification; consequently, in the following tables, such cases only were included in the respective groups, as distinctly and unmistakably contained some common and important characteristic, and all anomalous cases are, therefore, placed in a miscellaneous group by themselves.

Heretofore, in using the word accidents, it has meant accident to life, and has been used synonymously with "loss of life" or death; but many collisions take place unattended with fatal consequences; and, although we shall hereafter show the loss of life consequent to each kind of collision, still it is important to discuss, in the first place, the conditions under which collisions of various kinds do take place,—therefore, in the following Table, XXII., no notice is taken of the number of persons killed and injured.

In treating of the deaths of passengers in the preceding part of this paper, it was assumed that all collisions were due to causes over which the company had control; but, in the following table, it will be seen, that of the 174 classified collisions, as many as 28 took place under circumstances which it is, to a very great degree, impossible to control, and, in fact, the collisions were of a nature, against which it would at all times be exceedingly difficult to use precautions which would effectually prevent them. They will be found in Section A of the following table, and are all more or less accounted for by the state of the weather. Fog-signals, and some other appliances, might, in a few of these instances, be made available; but in the majority of the cases it is difficult to suggest a certain remedy.

Sections B and C of this table may be considered to embrace collisions, the causes of which are certainly, to a very great extent, completely under the control of the companies; and it must appear to every inquirer that, of the 34 collisions in Section B, the great bulk were absolutely preventable by a sufficient amount of care. For example, of the 18 collisions enumerated in columns (*a*), (*b*), (*c*), and (*d*) of this section, 15 are due to portions of the trains becoming detached, and 3 to defective "breaks;" and it is difficult to conceive any sufficient reason to justify a continuance or repetition of accidents from these causes. No doubt the couplings of carriages may, under extraordinary circumstances, be found to give way, even when great vigilance has been used; but such an excuse can be of no avail in the face of so many accidents of this kind as are now under consideration, and there certainly does appear strong reason to condemn the system of management which permits a series of collisions from these causes. Again, it will be found, that no less than 16 collisions took place, owing to the trains having been retarded by accidents to some portion or other of the engine. It is, no doubt, sometimes difficult to deter-

TABLE XXII.

*An Analysis of Causes of Collisions on Railways in Great Britain and Ireland, from 1844 to 1852, inclusive.*

Not under Control of the Companies.		Partly under Control.		Entirely, or to a very great extent, under Control of the Companies.													
A. State of the Weather.				B. Defects of Machinery.				C. Neglect.						D. Other Causes.			
				Coupling Chains.			Breaks.	Engine.									
(a.) Fog or Storm.	(b.) Rails Slippery, (generally caused by Fog.)	(c.) Train retarded by Wind, and overtaken.	(d.) Waggons or Parts of Trains Blown on to Line. Generally Neglect of Pointsmen.	(a.) Part of Train becoming detached on Incline and running back.	(b.) Part of Train becoming detached and left on Line.	(c.) Train giving way in Middle. Hinder part running into Fore part by its own Impetus.	(d.) Faulty Breaks.	(e.) Train or Engine retarded or stopped by Accident to Engine.	(a.) Of Signals Generally.	(b.) Of Engine Driver, by either Neglecting Signals or Careless Driving.	(c.) Of Breaks (some-times with Driver.)	(d.) Of Points-men, or Points not Acting.	(e.) Of Station-Masters, some-times in conjunction with others.	(f.) Waggons or Parts of Trains left on Line.	(a.) Train lost Speed and was over-taken.	(b.) Steam or Water Failed.	(c.) Miscellaneous, and not specified, but all attributable to Neglect on the part of Servants of the Companies.
1844	4	1	1	...	1	...	1	1	1	...	...	...	1	3	...	...	2
1845	1	...	2	...	...	...	...	1	2	7	...	...	...	1	1	...	11
1846	2	...	...	...	...	1	1	2	3	6	1	1	1	3	2	1	11
1847	...	...	...	...	1	...	...	3	4	6	2	5	1	2	...	3	10
1848	...	...	...	1	...	...	...	3	...	7	...	3	1	2	...	...	19
1849	1	...	1	2	1	...	...	...	3	1	...	1	...	2	...	1	15
1850	2	...	2	2	...	...	...	...	2	6	...	1	...	1	...	...	26
1851	1	...	...	1	1	1	...	5	1	5	...	2	...	1	...	...	19
1852	...	...	1	...	1	2	1	1	2	9	1	2	...	1	...	...	21
Totals	11	9	1	7	6	5	3	16	18	47	4	15	4	16	3	5	134



mine on inspection, the defects in the mechanism of an engine, still the collisions from this cause have been so many, that it is impossible to conceive a due amount of scrutiny to have been always exercised in the determination of the state of the locomotives. Greater precautions have of late years been taken to guard against this class of accidents, and greater knowledge also now exists as to what constitutes durability and efficiency in many parts of the machinery; it is, therefore, to be hoped, that still further improvements will, in these respects, yet take place, and prevent collisions from any such causes. In fact, an examination of column (e), Section B, of this table is sufficient to show, that during the last four years a marked improvement has taken place.

The collisions in the five years 1844-48, from the causes now  
under consideration ..... } = 10, and  
In the four years 1849-52 ..... = 6

But in the former period, the extent of railway mileage was to that in the latter as 15,337 to 25,529, and consequently if this kind of collision had taken place in the latter period in the same ratio as in the former, the number would have been nearly 17, while, in fact, it amounted to only 6. And there appears no sufficient reason why this improvement should not continue until all such accidents, or nearly all, should disappear.

The next Section, C, of this table includes a class of collisions of a most serious character, and of an alarming extent. It is, perhaps, impossible to bring any direct charge against the directors and superior officers, on account of the culpable neglect on the part of the inferior servants, to which these accidents are immediately due; but the very enormous extent of them should call forth some more effective system of supervision for enforcing a faithful and certain observance of the regulations of the companies. Of the 174 collisions, of which the causes are classified in Table XXII., the extraordinary number of 104 have arisen out of what can be described as nothing but the most culpable neglect.

18 are due either to the neglect or mismanagement of signals.

47 have arisen from drivers neglecting signals, and other kinds of careless driving.

4 are due to the omission of the use of the "break."

15 are owing to pointsmen neglecting their duty.

4 are owing to the neglect or carelessness of station masters. And

16 have been occasioned by the inexcusable neglect of leaving waggons and portions of trains on the line, when the same line was in use by other trains; this last cause has, however, nearly disappeared during the three years 1850-52, not more than one collision yearly having taken place.

In Section D, the last of Table XXII., it will be found that column (c) contains no less than 134 cases of collisions, which it has been found impossible to classify in a satisfactory manner; but they are all attributable to neglect on the part of the servants of the companies.

The facts recorded in this table are of grave importance; and, although the directors of railway companies have done an immense deal in recent years to protect passengers against loss of life and limb, they are still imperatively called on to take the subject of the fre-

quently recurring collisions more thoroughly into consideration than they have yet done. When such most culpable neglect exists, as is evident by this table, the public have a right to demand more complete protection.

The next table to be considered is Table XXIII., which follows the same principles of classification as the table immediately preceding, only that in addition, the number of deaths and injuries due to each kind of collision is specified, for *employés* as well as passengers.

From this table a very clear notion may be formed of the danger to life and limb of passengers by collisions taking place from different causes. It would appear that—

(A.) The 28 collisions, from causes assignable to the state of the weather, produced .....	}	2 deaths and 69 injuries.		
(B.) The 34 collisions, from defects and breakage of machinery, produced .....		11	„	208 „
(C.) The 104 collisions, arising from classified causes of neglect in railway servants, produced .....	}	21	„	305 „
(E.) And the 134 collisions arising from unclassified causes, produced .....		16	„	581 „

It hence follows, that in each of the above groups the ratios of deaths and injuries to passengers were as follows:—

In group (A), each collision produced	·071	deaths and	2·464	injuries.
„ (B), „	·324	„	6·118	„
„ (C), „	·202	„	2·933	„
„ (E), „	·119	„	4·336	„

And Group B, or collisions arising from defects and breakage of machinery, has evidently the greatest tendency to occasion not only death, but likewise injuries to passengers, in relation to the number of collisions. This is not quite in accordance with the features attendant on railway accidents generally, in which it will be observed that those causes usually most fatal to life are accompanied with a reduced ratio of injuries. This will appear in a strong light when the part of this inquiry, relating to *employés*, is considered.

An examination of the final columns of Table XXIII. will show that the ratio which the number of injuries bears to the number of deaths arising from collisions differs very widely from that from accidents from all causes, as exhibited in Abstract G., both as regards passengers and servants of the companies.

Class of Accidents.	The Ratio of Injured to Killed among	
	Passengers.	Employés.
All causes in the aggregate.....	675·20 per cent.	65·03 per cent.
Collisions only .....	2301·96 „	225·49 „

It hence follows that the injuries greatly exceed the deaths amongst passengers in both of the above classes of accidents. On the other hand, the deaths amongst employés exceed the injuries from all causes in the aggregate; but in the class of collisions, the injuries, as with passengers, much exceed the number of deaths.



TABLE XXIII.

*Showing the Number of Deaths and Injuries, to Railway Employé's and to Passengers, due to each cause of Collision, on the Railways of Great Britain and Ireland, from the Year 1844 to the Year 1852, inclusive.*

YEAR.	A. Weather.				B.				D.				Neglect.				Grand Total.							
	a, b, c. Not under Control of the Companies.		d. Partly under their Control.		Total.		Defects or Breakage of Machinery.		Loss of Speed, or Steam or Water Failed.		C. From known Causes.		E. From Miscel- laneous and unascertained Causes.		Total.		Grand Total.							
	Num- ber of Colli- sions.	Emp.	Pass.	Num- ber of Colli- sions.	Emp.	Pass.	Num- ber of Colli- sions.	Emp.	Pass.	Num- ber of Colli- sions.	Emp.	Pass.	Num- ber of Colli- sions.	Emp.	Pass.	Num- ber of Colli- sions.	Emp.	Pass.						
1844	7	1	12	3	1	4	3	1	1	4	5	2	35	2	1	9	7	1	44	18	1	7	5	60
1845	2	...	4	1	...	...	1	...	1	...	3	4	36	11	...	26	21	3	62	27	3	7	4	66
1846	2	1	4	4	1	6	15	...	39	...	11	...	28	11	6	2	26	...	67	35	2	28	4	77
1847	3	1	2	4	1	...	...	...	11	...	20	1	8	7	22	7	30	5	7	40	6	9	9	41
1848	...	...	...	4	1	2	19	...	...	...	13	4	12	6	52	19	32	6	20	36	7	22	7	105
1849	1	1	...	3	1	6	...	...	...	...	7	2	3	...	2	15	22	4	5	28	6	7	...	66
1850	2	1	19	2	4	1	...	...	...	...	10	...	4	...	12	26	36	6	13	42	10	14	8	137
1851	2	1	...	8	...	116	...	...	...	...	9	3	...	28	...	19	28	6	4	38	7	4	9	301
1852	2	2	13	5	3	...	56	...	...	...	15	4	8	3	79	21	36	6	15	44	9	17	5	321
Totals	21	3	2	23	3	11	208	34	12	7	8	17	62	21	305	134	238	36	99	308	51	115	51	1174

The letters at head of the columns refer to those in the Analysis of Causes of Collisions. The accidents in (col. Aa) would, probably, be always traceable to Neglect of Pointsmen. Those in (col. D) would be, in general, attributable to Neglect.—See Analysis of Causes.

A curious and very interesting analysis of railway collisions will be found in the two next succeeding Tables, XXIV. and XXV.

TABLE XXIV.

*Showing the Number of Collisions in each Year, from 1844 to 1852, inclusive, with Number of Employés and Passengers Killed and Injured thereby.*

YEAR.	a. Passenger into Passenger.				b. Passenger into Other.				c. Other into Passenger.				d. Other into Other.				Totals.			
	Num-ber of Colli-sions.	Employés.		Passengers.		Num-ber of Colli-sions.	Employés.		Passengers.		Num-ber of Colli-sions.	Employés.		Passengers.		Num-ber of Colli-sions.	Employés.		Passengers.	
		Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.		Killed.	Injured.	Killed.	Injured.
1844	4	...	5	34	10	1	2	2	17	3	...	...	7	1	...	2	1	7	5	60
1845	4	...	...	1	13	1	3	...	24	8	1	2	3	...	...	...	...	3	4	66
1846	2	...	...	...	19	1	14	2	39	3	...	3	1	35	11	1	11	2	4	77
1847	6	...	1	...	18	2	3	9	19	3	...	...	...	5	13	4	5	6	9	41
1848	7	...	2	1	17	5	11	6	62	6	1	2	...	18	6	1	7	7	22	105
1849	4	...	...	...	14	1	1	...	16	3	...	...	...	36	7	5	6	6	7	66
1850	8	...	1	5	16	3	7	1	55	13	5	1	...	29	5	2	5	10	14	137
1851	7	...	...	6	23	5	3	...	80	6	...	...	3	65	2	2	1	7	4	301
1852	6	...	1	2	26	2	14	2	243	6	...	...	1	53	6	7	2	9	17	321
Totals	48	...	10	18	156	21	58	22	555	51	7	8	8	284	53	23	39	51	115	1,174



Of the 308 collisions recorded in Table XXIV., it will be found that—

- (a.) 48 have consisted of one passenger train coming into collision with another.
- (b.) 156 have consisted of collisions by passenger trains running into trains of another description, such as luggage, coke, mineral, contractors', &c., trains.
- (c.) 51 have been occasioned by other than passenger trains running into passenger trains. And
- (d.) 53 collisions happened by trains, not passenger trains, running into other trains, which were also not passenger trains.

It may be said, that in all the preceding four groups the public, as passengers, were interested, and even the last group, it will be found, records that three passengers were killed and six injured, although the trains were not passenger-trains. These deaths and injuries took place amongst persons in charge of horses and cattle.

A very characteristic distinction in the number of collisions, under Groups (b) and (c), is observable. Group (b) shows the number of passenger-trains running into others not passenger-trains, while group (c) is the converse kind of collision. Now as passenger-trains usually run at a higher speed than the other trains, the greater number of collisions is occasioned by the passenger-trains overtaking the others, the difference being almost exactly three times as great.

What is also somewhat curious to observe in the table under consideration is, the rather close approximation in the number of collisions with each other of trains of a similar kind. The collisions among exclusively passenger-trains were, in the nine years, exactly 48; and the collisions in the same period among trains, exclusively other than passenger-trains, were 53.

The following shows the ratio of deaths and injuries among passengers in each group of collisions in Table XXIV:—

In group (a),	each collision produced	·375	deaths and	6·854	injuries.
„ (b),	„	·141	„	3·558	„
„ (c),	„	·157	„	5·569	„
„ (d),	„	·057	„	0·113	„

The highest ratio of deaths, and also of injuries, in the above four combinations, will be found in Group (a); and for this there is a very obvious explanation, for the collision in this group consists of one passenger-train running into another; consequently, in every such collision, taking one with another, there will be double the number of passengers exposed to risk, which will be found exposed to such risks in collisions under Group (b); and it is rather singular to find, in an inquiry of this kind, so very positive a determination to the development of a law of mortality, when so many disturbing causes might have been considered to influence the results. If the ratio of deaths and injuries in Group (a) be divided by two, the results will be, ratio of deaths ·187, and ratio of injuries 3·427, not differing widely from the results of Group (b), nor from the results of Group (c), so far as regards deaths.

Another obvious and important result, arising out of this table, is the caution indicated in regard to the position of passenger to other trains on the line; for it is the mismanagement of this detail which occasions fully one-half of the whole collisions which take place.

TABLE XXV.

Showing the Number of Collisions occurring to each class of Passenger Train, as compared with those occurring to all Passenger Trains, and to each other, with the Deaths and Injuries occasioned thereby, from 1844 to 1852, inclusive.

YEAR.	a. Express.						b. Mail.						c. Ordinary Passenger Trains.						d. Excursion.						Total. (a + b + c + d.)				
	Number of Collisions.		Em- ployés.		Passen- gers.		Number of Collisions.		Em- ployés.		Passen- gers.		Number of Collisions.		Em- ployés.		Passen- gers.		Number of Collisions.		Em- ployés.								
	Not resulting in Injuries.	Resulting in Injuries.	Killed.	Injured.	Killed.	Injured.	Not resulting in Injuries.	Resulting in Injuries.	Killed.	Injured.	Not resulting in Injuries.	Resulting in Injuries.	Killed.	Injured.	Not resulting in Injuries.	Resulting in Injuries.	Killed.	Injured.	Not resulting in Injuries.	Resulting in Injuries.	Killed.	Injured.							
1844...	...	...	...	...	...	...	3	...	...	...	...	3	10	1	7	4	57	1	...	1	...	1	...	6	11	1	7	5	58
1845...	...	...	...	...	...	...	...	2	...	...	4	4	19	2	5	4	62	...	...	...	...	...	4	21	2	5	4	66	
1846...	...	1	...	2	...	...	1	1	...	...	4	6	15	1	15	3	73	...	...	...	...	...	7	17	1	17	3	77	
1847...	1	1	...	...	...	...	3	...	...	...	...	6	15	2	4	9	32	...	...	...	...	...	10	17	2	4	9	41	
1848...	1	2	1	4	1	10	1	4	4	6	...	4	6	16	1	5	6	89	...	...	...	...	...	8	22	6	15	7	103
1849...	...	...	...	...	...	...	...	1	...	...	1	7	11	1	1	...	62	...	...	...	...	...	8	13	1	1	...	65	
1850...	...	...	...	...	...	...	...	2	...	...	10	5	30	8	9	6	126	...	...	...	...	...	5	32	8	9	6	136	
1851...	...	1	...	...	...	1	...	1	...	...	2	3	27	5	3	9	235	...	...	...	...	...	3	33	5	3	9	301	
1852...	1	3	1	5	...	14	...	2	...	2	11	2	30	1	8	5	296	...	...	...	...	...	3	35	2	15	5	321	
Totals	3	8	2	11	1	26	8	13	4	8	...	36	42	173	22	57	46	1,032	1	7	...	...	1	54	201	28	76	48	1,168



The next Table, XXV, gives a still further analysis of the passenger-trains, by showing the number of collisions to each kind of train, whether “express,” “mail,” “excursion,” or ordinary train; and further distinguishes, among the collisions to each of these trains, the number which have resulted in injury to life or limb, and the number of collisions unattended with injury. Other than passenger-trains are excluded.

In this table, it will be observed, that the collisions of the “express” and “excursion” trains have occasioned but one death each throughout the whole period of nine years, while the collisions of “mail” trains were not attended with a single death to a passenger. So far as collisions are concerned, this ought to satisfy the minds of the timid of the safety of travelling by quick trains.

The following is a condensed abstract of Table XXV., in respect to passengers only:—

ABSTRACT M.

Trains.	Number of		Number of Passengers.		Ratio of Deaths and Injuries to			
	Non-serious Collisions.	Serious Collisions.	Killed.	Injured.	All Collisions.		Serious Collisions.	
					Killed.	Injured.	Killed.	Injured.
Express .....	3	8	1	26	·091	2·364	·125	3·250
Excursion ...	1	7	1	74	·125	9·250	·143	10·571
Mail .....	8	13	....	36	....	1·714	....	2·769
Ordinary .....	42	173	46	1,032	·214	4·800	·266	5·965
Total ...	54	201	48	1,168	·188	4·580	·239	5·811

It will thus be seen, that the ordinary trains have been fatal to life above the average. It will, however, be observed, that although the excursion trains have occasioned fewer deaths than the ordinary trains, yet the ratio of persons injured is nearly double the average. It will, likewise, be observed, that one-fifth part of all the collisions with passenger-trains are unattended with injury.

The following Table, XXVI., which includes collisions by other as well as passenger-trains, is interesting.

One remarkable feature in this table is, the disparity in the frequency of collisions in different months of the year. It will be seen that, in the six months commencing with August and ending with January, the number of collisions is more than double of the number in the other six months of the year. This is, no doubt, to be in part accounted for by the state of the weather, as may be understood on referring to Section A of Tables XXII. and XXIII.; but this would still not of itself be sufficient to account for the remarkable difference observable in the preceding table, unless it be that the “neglect,” recorded in Section C of Table XXII. and Section E of Table XXIII., be also to some extent occasioned by the trying nature of the weather at the same season. Another curious circumstance is the fact that in the last six months of this table, in which double the number of collisions have taken place, not quite so many lives of passengers have been lost, although the passenger traffic of the same six months is

TABLE XXVI.

*Showing the Number of Collisions on the Railways of Great Britain and Ireland for the nine Years 1844—1852, for each Month of the Year, with the Number of Employés and of Passengers Killed and Injured thereby.*

Month.	Number of Collisions.			Employés.		Passengers.	
	Total.	Not resulting in Injury to Life or Limb.	Resulting in Injuries.	Killed.	Injured.	Killed.	Injured.
February .....	13	4	9	2	6	....	15
March .....	15	4	11	2	2	....	30
April .....	10	3	7	....	4	6	110
May .....	21	4	17	4	....	11	75
June .....	15	....	15	3	8	7	57
July .....	25	4	21	3	17	2	127
Totals .....	99	19	80	14	37	26	414
August .....	37	7	30	3	12	11	200
September .....	32	4	28	7	7	3	137
October .....	35	8	27	8	18	4	102
November .....	36	8	28	5	16	3	177
December .....	41	11	30	7	15	4	103
January .....	28	12	16	7	10	....	41
Totals .....	209	50	159	37	78	25	760
Totals of 12 months....	308	69	239	51	115	51	1,174

greater than in the other six months. For the nine years now under consideration, the passenger traffic of the first six months was 240,307,731, the passenger traffic of the second six months was 302,959,421. And, consequently, the deaths from collisions, during the first six months, were 1 in every 9,242,605 passengers; and, during the second six months, were 1 in every 12,118,577 passengers. So that those figures represent the relative chances of loss of life from collisions in railway travelling during the respective seasons, assuming that such accidents should for the future observe the same order of distribution.

In respect of injuries to passengers, it will be observed, that in frequency they follow almost the precise order of the collisions themselves—the ratio to collisions in the different seasons being nearly the same. The facts in this table are well worth examination by those intrusted with the management of railways. It is scarcely possible to conceive that any intelligent superintendent of the trains of a railway, who thoroughly masters the facts in regard to collisions contained in Tables XXII. to XXVI. inclusive, could not devise some means which would prevent the recurrence of so many accidents of this class.

The only remaining table now to be brought forward on the subject of collisions is the following one, Table XXVII. in which are shown the places on the line at which the various collisions have taken place.



TABLE XXVII.

*Showing the Localities where all Collisions, from 1844 to 1852, inclusive, occurred, with the Deaths and Injuries to Railway Employés and to Passengers caused thereby; also the Number of Collisions unattended or attended by Injury for each of the above Years.*

YEAR.	a. At or near Station or Terminus.				b. At or near Junction.				c. At Sidings or Crossings.				a + b + c. Total of Stations, Junctions, and Crossings.				On Open Line.				Grand Total.									
	Number of Colli- sions.		Em- ployés.		Passen- gers.		Number of Colli- sions.		Em- ployés.		Passen- gers.		Number of Colli- sions.		Em- ployés.		Passen- gers.		Number of Colli- sions.		Em- ployés.		Passen- gers.							
	Not resulting in Injury.	Resulting in Injury.	Killed.	Injured.	Not resulting in Injury.	Resulting in Injury.	Killed.	Injured.	Not resulting in Injury.	Resulting in Injury.	Killed.	Injured.	Not resulting in Injury.	Resulting in Injury.	Killed.	Injured.	Not resulting in Injury.	Resulting in Injury.	Killed.	Injured.	Not resulting in Injury.	Resulting in Injury.	Killed.	Injured.						
1844	1	1	...	...	3	...	...	...	...	...	...	...	...	1	1	...	3	...	...	...	5	11	7	57	6	12	1	7	5	60
1845	1	6	1	...	3	...	...	9	...	...	...	...	...	1	10	1	26	...	...	...	3	13	3	40	4	23	3	7	4	66
1846	3	8	...	...	...	...	...	...	...	...	...	...	...	3	11	...	63	1	...	...	9	12	13	14	12	23	2	28	4	77
1847	2	6	2	...	...	...	...	...	...	...	...	...	...	4	10	2	23	7	...	...	13	13	4	18	17	23	6	9	9	41
1848	2	14	...	...	...	...	...	...	...	...	...	...	...	5	19	1	81	7	...	...	5	7	6	24	10	26	7	22	7	105
1849	2	6	1	1	...	...	...	...	...	...	...	...	...	2	9	2	40	...	...	...	7	10	4	26	9	19	6	7	...	66
1850	1	21	2	9	...	...	...	...	...	...	...	...	...	1	22	3	100	6	...	...	4	15	7	37	5	37	10	14	8	137
1851	1	16	4	4	...	...	...	...	...	...	...	...	...	1	19	6	136	1	...	...	1	17	1	8	2	36	7	4	9	301
1852	1	18	5	9	...	...	...	...	...	...	...	...	...	1	23	5	198	3	...	...	3	17	4	2	4	40	9	17	5	321
Totals	14	96	15	42	2	10	3	2	1	44	3	18	2	12	7	44	670	26	56	20	50	115	31	25	69	239	51	115	51	1,174

It will be found that, of a total number of 308 collisions, no less than 110 have taken place at stations, or the very places where the greatest care and vigilance are required and might be exercised. Anything like fair attention to the use of well understood precautions, and a proper use of signals and telegraphs, should completely, or at all events to a great extent, prevent this class of accidents. The same remarks may be justly made in respect to the collisions recorded in Sections *b* and *c* of the same table. The collisions in the first three sections of this table constitute about 46 per cent. of the whole number, and are clearly of a kind that may be greatly diminished by a well devised system of management. The accidents from collisions on open lines, or rather at other places than stations, junctions, sidings, and crossings, amount to 165. The intensity of the different kind of collisions in this table, in death and injury, does not exhibit any very marked disparity.

The only other important class of accidents, from which passengers suffer, and assumed to be under the control or management of the companies, are those occasioned by trains, or portions of trains, running off the line.

Of the 228 defined causes of deaths of passengers, given in Table XIII., it will be found that 109 are attributable to causes under control of the companies. And then, again, Table XIII. shows that 35, or 32.1 per cent., were occasioned by "running off the line." In so far as the management of railways is concerned, in preserving the lives of passengers, this class of accidents is second only in importance to that arising from collisions. In fact, "collisions" and "running off the line" caused 91 per cent. of all the deaths of passengers for which the companies can be supposed responsible; and therefore, a thorough analysis of these two classes of accidents will complete the inquiry so far as the lives of passengers are concerned.

In the following Table, XXVIII., will be found the results of the investigation made into the immediate cause of engines, trains, and other parts of trains running off the line. The analysis will be found sufficiently minute and detailed for every useful purpose.

Of 156 cases of "running off the line," the immediate cause has been ascertained in 105 instances. And it is also found, that 105 of the accidents have been attended with injury to life and limb of passengers, and 51 resulted without any injury.

It will immediately appear on examination of Section A of the same table, as remarked in regard to the similar section of the tables of collisions, that it is impossible to hold the companies responsible for every one of this group of accidents. They are so clearly due to causes difficult to be foreseen, that they may for the present be passed over as such.

But in regard to Section B, which includes none but cases of running off the line from the breaking of machinery, there can be no doubt that greater precautions might generally be taken. The remarks offered on the "breaking of machinery," as the immediate cause of collisions, apply with equal force in this instance, and need not again be repeated; but it is certainly to be lamented that, of the 105 ascertained causes of "running off the line," no less than 43 should be due



*An Analysis of Causes of Engines, Trains, or Parts of Trains, running off the Rails, on Railways in Great Britain and Ireland from the Year 1844 to the Year 1852, inclusive.*

YEAR.	A Weather.			B Machinery Breaking.										C Defects in Permanent Way.						D Obstructions on Road.			E	F	G	Total Number in each Year.
	Floods or Damaged there-by.	Ballast washed away by Heavy Rain.	Subsidence of Embankment.	Engines.				Tenders.		Carriages and Trucks.		Points or Switches Open, Defective, or Unattended to.	Rail-joints, Springs, or Rails out of Gauge &c.	Rails broken or torn up.	Line under Repair.	Bridge or Re-gave way.	Bad State of Road in General.	Left or Fallen on Line.	Placed on Malignly.	Contact with Cattle.	Reckless Driving, or excessive Speed.	Miscellaneous.	Cause not ascertained.			
				Axles.	Wheels.	Crank.	Connecting Rod.	Other Acci-dents.	Axles.	Whls.	Axles.													Whls.		
	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	Num-ber of Acci-dents.	
1844.	1	2	1	2	1	2	1	1	2	1	2	6	2	4	1	2	1	1	1	1	1	1	1	10		
1845.	1	2	1	2	1	2	1	1	2	1	2	6	2	4	1	2	1	1	1	1	1	1	1	15		
1846.	1	2	1	2	1	2	1	1	2	1	2	6	2	4	1	2	1	1	1	1	1	1	1	23		
1847.	1	2	1	2	1	2	1	1	2	1	2	6	2	4	1	2	1	1	1	1	1	1	1	31		
1848.	1	2	1	2	1	2	1	1	2	1	2	6	2	4	1	2	1	1	1	1	1	1	1	22		
1849.	1	2	1	2	1	2	1	1	2	1	2	6	2	4	1	2	1	1	1	1	1	1	1	10		
1850.	1	2	1	2	1	2	1	1	2	1	2	6	2	4	1	2	1	1	1	1	1	1	1	14		
1851.	1	2	1	2	1	2	1	1	2	1	2	6	2	4	1	2	1	1	1	1	1	1	1	16		
1852.	1	2	1	2	1	2	1	1	2	1	2	6	2	4	1	2	1	1	1	1	1	1	1	15		
Totals	1	2	2	2	1	2	1	1	2	1	2	6	2	4	1	2	1	1	1	1	4	1	3	156		

to "breaking of machinery." Frequent inspection by competent parties is the protection against this group of accidents, and strong measures should be enforced to secure the safety arising from this sort of supervision.

The accidents arising from causes recorded in Section C are certainly all, or at least to a very great extent, preventable. Nothing but the most culpable indifference to the public safety can permit a continuance of this group of accidents, which forms upwards of 28 per cent. of all the classified accidents in this table.

The accidents included in Columns 2 and 3, of Section D, cannot in general be attributable to negligence of the companies.

The four cases in Section E are due to reckless driving.

Sections B and C of this table should be well considered by railway directors.

The next, Table XXIX., will show how the various groups of accidents of "running off the line" affected life and limb of passengers.

What is strange in the record of accidents contained in this table is, that the 51 cases, included in Sections A and B, did not occasion a single death of a passenger, while the 30 in Section C,

*Showing the Number of Deaths and Injuries, to Railway Employés and to Passengers in Great Britain*

	A.					B. Machinery Breaking.																C. Defects in Permanent Way.												
	Weather.					a.				b.				c.				d.				a.					b.							
						Engines.				Tenders.				Carriages, or Trucks, &c.				Totals.				Rails, Points, and Switches.					Bad Road under Laying.							
	Number of Accidents.	Emp.		Pass.		Number of Accidents.	Emp.		Pass.	Number of Accidents.	Emp.		Pass.	Number of Accidents.	Emp.		Pass.	Number of Accidents.	Emp.		Pass.	Number of Accidents.	Emp.		Pass.	Number of Accidents.	Emp.		Pass.	Number of Accidents.	Emp.		Pass.	
Killed.		Injured.	Killed.				Injured.	Killed.			Injured.	Killed.			Injured.	Killed.			Injured.	Killed.			Injured.	Killed.			Injured.	Killed.			Injured.	Killed.		Injured.
1844.....	...	...	...	...	...	1	1	1	...	...	1	...	...	2	1	...	...	...	...	3	1	1	...	2	3	...	2	...	...	...	...	...	...	...
1845.....	...	...	...	...	...	2	...	...	...	...	...	...	...	1	...	...	...	1	3	...	...	1	3	...	5	...	5	...	2	1	...	...	...	
1846.....	2	...	2	...	...	5	1	3	...	1	...	1	...	4	1	3	...	13	10	2	7	...	14	2	...	...	...	1	1	...	...	...		
1847.....	1	...	...	...	...	6	2	3	...	1	...	...	...	4	2	...	...	11	4	3	...	...	6	2	2	...	...	2	...	...	...	...		
1848.....	2	1	2	...	4	4	1	3	...	5	...	...	...	1	...	...	...	5	1	3	...	5	3	...	2	...	...	...	...	...	...	...		
1849.....	2	...	1	...	...	1	...	...	...	...	...	...	...	2	...	...	16	3	...	...	16	...	...	...	...	...	...	...	...	...	...	...		
1850.....	...	...	...	...	...	1	...	...	...	...	...	...	...	2	...	1	...	2	3	...	1	...	2	4	...	...	6	...	...	...	...	...		
1851.....	...	...	...	...	...	1	1	1	...	...	1	...	...	1	2	...	...	3	3	1	...	...	3	...	6	23	...	...	...	...	...	...		
1852.....	1	...	2	...	...	2	3	2	...	...	...	...	...	...	...	...	...	2	3	2	...	...	1	...	...	2	...	...	...	...	...	...		
Totals ...	8	1	7	...	4	23	9	13	...	6	4	...	1	...	2	16	5	4	...	32	43	14	18	...	40	25	2	11	6	36	5	2		

Column A contains all those accidents which were not under the Company's control.

Column C a i open,



attributable to defects in the "permanent way," produced 8 deaths of passengers.

The number of deaths of passengers from obstructions on the line was 3, but no passenger lost his life under Section E, reckless driving, or excessive speed.

The miscellaneous group, Section F, it will be seen, includes 55, or upwards of one-third, of all the cases of trains running off the rails, to which unascertained causes nearly one-half of the whole deaths of passengers from running off the line is due, but the returns of the railway department were either defective as to these cases, or the accidents themselves were of so peculiar a kind as not to admit of a satisfactory classification.

When that part of the subject, which has reference to the manner in which railway accidents have affected the employés, is considered, the effects of trains running off the line will be more fully discussed. From Tables XXIV. and XXVI., preceding, it will be observed that collisions killed an equal number of employés and passengers; but the cases of running off the line have, as will be seen by the last columns of Table XXIX., relatively a much more fatal effect on the servants of the companies.

LIX.  
Each Cause of Trains, or Parts of Trains, or Engines running off the Rails of Railways  
Ireland, from 1844 to 1852.

D. Obstructions on Line.												E.				F.				Grand Total.													
c. Totals.				a. On or between Rails.				b. Contact with Cattle.				c. Totals.				Reckless Driving, or Excessive Speed.				Miscellaneous, and not ascertained.													
Emp.		Pass.		Number of Accidents.		Emp.		Pass.		Number of Accidents.		Emp.		Pass.		Number of Accidents.		Emp.		Pass.		Number of Accidents.		Emp.		Pass.		Number of Accidents.		Emp.		Pass.	
Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.		
...	2	...	...	1	2	...	...	2	1	...	...	3	3	...	...	1	...	...	1	...	...	...	...	10	4	3	...	3	...	...	...		
1	5	...	5	3	...	3	...	6	1	...	...	4	...	3	...	6	...	...	3	3	6	...	...	15	4	14	...	12	...	...	...		
1	1	...	2	1	...	...	...	...	...	...	...	1	...	...	...	2	2	1	...	5	1	4	...	1	23	6	15	...	17	...	...		
2	2	2	1	2	...	...	...	...	...	...	...	2	...	...	...	...	...	...	9	3	8	3	17	31	9	13	5	18	...	...	...		
...	2	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	11	5	5	2	3	22	7	12	2	12	...	...	...		
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	4	4	...	5	1	10	4	1	5	18	...	...		
...	...	...	6	2	...	2	...	1	...	...	...	2	...	2	...	1	...	...	5	...	1	...	9	14	...	4	...	18	...	...	...		
...	...	6	23	2	2	...	3	3	...	...	...	2	2	...	3	3	...	...	8	3	4	...	22	16	8	5	9	48	...	...	...		
...	...	2	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	10	7	7	...	15	15	10	11	...	17	...	...	...		
4	12	8	39	12	4	5	3	10	4	1	...	...	16	5	5	3	10	4	2	1	...	2	55	26	35	10	68	156	52	78	21	163	

of neglect in leaving points open, the effect on the train being manifestly the same whether they were left active, &c.





In the preceding Table, XXX., it will be seen in what manner the different kind of trains were affected by the class of accidents now under consideration.

It was found in Table XXV. that the passengers by "express" trains suffered less from the collisions which occurred, than the passengers by other trains. But in regard to the class of accidents in the preceding table, the case is very different; for, from the 18 cases of "running off the line" by express trains, 4 deaths of passengers happened, while from the 93 cases taking place among "mail" and other passenger trains, the number of deaths was 17. In regard, however, to injuries only, the ratio was also less in the case of "express" trains.

The preceding portion of this paper has been confined chiefly to an examination of the manner in which railway accidents have affected passengers, although the tables themselves contain the results of the analysis for employes and other persons not passengers for the time being. Already a large space of the present part of the *Journal* has, however, been devoted to this communication, to the exclusion of some other contributions of an important nature; but this subject will be continued in the next Number, and that portion of it, which was submitted to the Statistical Section of the British Association at Hull brought forward, in which will be investigated, as completely as the data will admit of, the manner in which railway accidents in the United Kingdom during the twelve years, 1840-52, have affected railway servants, and other persons not passengers.

Although the general public is naturally most alive to the manner in which passengers suffer from accidents, still every earnest inquirer must at once sympathize with the dreadful amount of accidents and fearful loss of life to which the servants of Railway Companies are exposed. It is quite impossible not to regard this latter branch of the inquiry as really the more grave and important of the two. Table XII. shows that while in the twelve years ending 1852 the loss of life amongst passengers was 266, that 1,081 deaths took place amongst the employes. This statement is of itself sufficient to prevent the next portion of this Paper from being regarded with indifference.

When the two series of facts have, therefore, been fully brought forward, both as they affect passengers and servants of the companies, it may be then possible to throw some further light on such points as may be calculated to suggest means for lessening a large number of the accidents, and saving the lives of many who would otherwise become victims of the present system of railway management.

*Freehold Land Societies.* By THOMAS BEGGS, F.S.S.

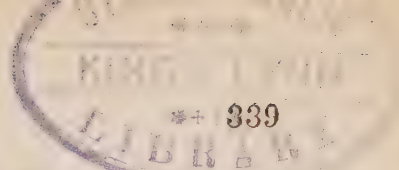
[Read before the Statistical Society, 20th June, 1853.]

It has been suggested that a brief history of the rise and progress of freehold land societies, with a description of the mode of working them, would be interesting to the Society. As I have paid considerable attention to this class of institutions, and have had, from the accident of position, many opportunities of observing their operations, I have ventured to throw together a sketch, which, fragmentary though it be, may give a pretty accurate idea of the principles upon which they are founded, and furnish data by which to estimate the advantages likely to accrue from their formation.

These societies were first suggested by an effort that was made, for a purely political purpose, by the Anti-Corn-law League, during its active existence. In 1843, Lord Morpeth, the present Earl of Carlisle, who had been one of the most popular candidates ever returned for the West Riding of Yorkshire, was defeated on the question of free trade. The League felt this as a serious blow, in a constituency which, from its size and importance, had been taken as an index to public feeling on all great questions. Besides, the West Riding of Yorkshire comprises some of the largest, wealthiest, and most prosperous seats of manufacture, and therefore such a defeat told most powerfully against them.

Mr. Cobden, whose attention had been previously directed to the forty-shilling-freehold qualification as the basis of a powerful machinery to be put in motion in case of emergency, went down and proposed to the men of the West Riding that they should at once set about the purchase of freeholds to the number required to constitute a free-trade majority. It was found that 5,000 votes would be required. In the space of two years, this number were created, and at the next election his lordship was returned without opposition. Free-trade candidates were returned by the same means for East Surrey and South Lancashire; and the members of the Anti-Corn-law League were moving in every part of the country where counties or divisions of counties returned members opposed to their views, when Sir Robert Peel, by carrying his measure for the repeal of the corn-laws, put an end to this creation of votes, and to the existence of the Anti-Corn-law League. The freeholds themselves, in this case, were little valued by the possessors, except as a means of securing a vote, and the freehold vote possesses considerable elasticity and adaptability to a political purpose of this kind. It is the oldest kind of suffrage, and exists in several forms. It is simply necessary to show that the person claiming to be put upon the register has a clear annual interest in freehold property to the amount of forty shillings; it is independent of residence or payment of rates. A person may reside in London and qualify for Northumberland; in fact, he can, if he chooses, qualify for every county in England and Wales. In some cases, members of the League qualified for five or six places. The favourite form of the qualification for the League men was that of rent-charges and chief rents, as these were





more easily manufactured to order than any other. One hundred persons may unite in the purchase of one estate, and, supposing that each of them can prove an interest in the estate to the full value of forty shillings per annum, he can claim to be put upon the register; or any owner of an estate can sell off rent-charges to the whole annual value of his estate. This was, no doubt, very convenient to the League, as the value of the votes depended upon their immediate applicability. Little care was taken as to the commercial value, and when the plea for their creation was withdrawn, some had difficulty in finding the exact locality of their freeholds; others found that they had purchased dilapidated cottages and buildings worth no more than the market price of the old materials of which they were composed; and others, again, found that it would have been an inconvenient and troublesome process to have enforced the payment of the annual rents. All that can be said of the experiment is, that it answered the main purpose, but in other respects its success was so very equivocal, that it encouraged no speculation in freeholds. I find, however, that the mode of purchasing land on a perpetual ground-rent or chief rent has been very generally in use in Manchester, and it confers a vote upon a succession of proprietors. For example, A sells a building-site to B for 40s. a-year perpetual ground-rent, upon which B erects a cottage worth 8l. a-year, and thus both A and B are entitled to county votes. But it sometimes happens that five or six persons claim to be registered upon the same property. C buys a plot of land in an improving district for a perpetual rent of 50l., which he sells to D for 55l.; E buys it of D for 60l., and sells it to F for 65l.; thus, as each proprietor has a clear annual value of more than 40s. for ever, they are all entitled to vote.

Almost immediately after this, a movement was started by Mr. Feargus O'Connor, but which must not be confounded with the freehold land movement. This was intended to create independent peasant proprietors, and the subscribers were induced to believe that they could with advantage change their ordinary occupations, and in possession of two or three acres of land, cultivate it to advantage. The whole scheme was a failure; but I need not enter upon that history, as the movement and its results are matters of familiar knowledge. In a short time after the breaking up of the League, Mr. James Taylor, of Birmingham, a working man, and who had taken a very active part in temperance and building societies, made an effort to establish a freehold land society in Birmingham. He had a double object in view—that of creating county votes and of promoting the welfare of the working classes, by stimulating them to save their money and invest it in allotments of land or in cottage-houses. Mr. Taylor having been known as an intelligent, useful, and honest man, soon found influential supporters, and in 1847, he founded the first freehold land society in Birmingham. I obtained from Mr. Taylor some returns in January last, and at that time there were five societies in that town, comprising 3,000 members, nearly the whole of them being working men. The payments are 6s. per month per share, and the sums now paid in amount to 70,000l. They have purchased 19 estates for division among the members, and 2,300 allotments have been made. It is worthy of observation that only one of the societies is held at a

public-house, and that has been the least successful. The inference I draw from this fact is, that these societies are supported by the more thrifty and sober portion of the working-classes. In a few weeks after the announcement of the formation of the Birmingham Freehold Land Society, the National Freehold Land Society commenced operations, under the auspices of Mr. Cobden and other leading members of the League, with the avowed object of creating votes to secure a majority of Reform members in the counties where Conservatives were returned. The fact is, the society was commenced to aid a movement which was then making to alter the basis of the representation. The first prospectus limited its operations to the home counties, which return twenty-one members to Parliament. Of this number, sixteen were said to be opposed to an extension of the suffrage, and the labours of the society were to be directed so as to change the relative position of the two parties, the Conservative and Liberal, and to give a majority in every constituency to the latter. This society afterwards enlarged its operations, and embraced the whole of England and Wales. As Scotland and Ireland do not possess the forty-shilling freehold qualification (the former having never possessed it, and in the latter case, the forty-shilling freeholders having been disfranchised by the Reform Bill), these parts of the empire were not included. It was held out as a possible thing that this work might be accomplished in five or six years. Several general statements were put forward to show how practicable and easy this was; but I fear they were founded upon very imperfect data. Some idea may be formed of the work to be accomplished, when it is seen that there are twenty-seven county constituencies with an average number of electors below 3,000, twelve more under 5,500, and twenty more with an average below 6,000. To ascertain the relative strength of the Conservative and Liberal voters, the last election may be referred to. It is not an unfair test, as, from the fact of the free-trade policy being considered in peril, the full strength of the Liberal cause was put in requisition; but it must at the same time be observed that, under such circumstances, many voted for Liberal candidates who would not have done so had a question of the suffrage been pending.

The commencement of the National Freehold Land Society was followed by many others throughout the country. In January last, I made special inquiries, and although the returns I obtained were very imperfect, I gathered the following particulars, viz., that the probable number of societies at that time existing was 130, about twenty of which were established in London; the probable number of members was 85,000, subscribing for 120,000 shares. The number of estates purchased amounted to 310, and these estates had been divided into 19,500 allotments. The sum actually subscribed for was not less than 3,600,000*l.*, of which 790,000*l.* had been actually received. I have found it no easy matter to get particulars of the various societies, or even to ascertain the existence of some of them. Many of them are doing a very small business, and seem to be very loosely conducted; others are increasing and prosperous. I have obtained returns from the National Freehold Land Society, which, with the exception of the one referred to as founded by Mr. James Taylor, is the oldest; and returns also from the Conservative Land Society, in the management



of which, I believe, one of the Fellows of this Society, Lord Alfred Churchill, takes a very useful and active part.

National Freehold Land Society.—Completed shares, 6,000; uncompleted ditto, 10,000; amount received, 500,000*l.*; estates, 115; acres, 3,000; purchase-money, 400,000*l.*; number of appropriated lots (some are 200*l.* lots), 5,000; supposed proportion of working classes, one-third; profits on completed shares, 5 per cent.; on uncompleted, 10 per cent. last year—now 5 per cent.; price of rights, 18*l.* highest; ditto ditto, 2*s.* 6*d.* lowest; the proportion of shares kept by those to whom they are drawn is about three-fourths, so that one-fourth of the shares drawn are on sale.

The Westminster Freehold Land Society is the next oldest freehold land society. Its progress has not been so great; it has enrolled 1,010 members, taking 1,602 shares. This society does not adopt the ballot, but disposes of the shares by rotation. Five estates have been purchased, and in every case they provide that houses not less than a certain amount in value shall be built upon them. Upon one estate, the minimum is fixed at 600*l.*

The Conservative Freehold Land Society has, since its formation, been very successful. This society has only been nine months in existence, but the total number of shares issued is about 4,500, representing a capital of 225,000*l.*, on which 35,000 have been paid. They have purchased ten estates, but they do not give the prices paid for them, nor the quantities in each. I observe, with great satisfaction, that they have a reserve fund. In this case, it will be seen, by reference to the conditions attached to the plan, that buildings of less value than 1,200*l.* shall not be erected in one case, 700*l.* in another.

Having given a rapid sketch of the rise and progress of these societies, I may now proceed to offer an explanation of the principles upon which they are formed and conducted. The freehold land societies are enrolled under the Benefit Building Societies' Act, and the shorter way to an understanding will be to examine what a building society really is. The societies which are, in compliance with the requirements of the act of Parliament, denominated building societies, are not building societies at all. They are compelled to assume a name which not only does not represent their business, but totally misrepresents it. A building society does not build, nor can the funds of the society be appropriated legally to the purposes of building. A building society is simply a mutual savings bank and loan society. A number of men unite together, and pay in a certain weekly or monthly sum, say six shillings per share per month, and when the accumulated payments have reached to a certain amount, say two hundred pounds, such sum is lent to any one of the members who is desirous to obtain such loan, on his giving security and paying interest to the society. The preference is decided by rotation, by competition, or more generally by ballot. If the money is put up to the highest bidder, the purchase-money—that which he gives for the appropriation—goes into the fund; if the preference is decided by ballot, the person who obtains it may sell it (it will have almost invariably a marketable value), to his own advantage, putting the profit in his own pocket. In most cases, the person obtaining the choice or preference, proceeds to build, or to buy, freehold or leasehold property. The solicitor to

the society manages the matter, and a mortgage-deed is executed to the society, and held by the trustees until the money advanced is repaid. It will not, I am sure, be considered foreign to the subject, if I make one or two remarks upon the character of these building societies. I am sorry to say that, from the inexperience of the members, and the designs, very often, of persons at the head of the management, they do anything but contribute to the interests of the class whose patronage they seek. Many of them put forth promises it is impossible they can fulfil; some of them are promoted by speculating solicitors and house and land agents, who, having properties to sell, obtain by this means much more than the actual value, and not a few have suffered from the wilfulness of an ignorant direction, and from the jobbing of the officials. Probably, by the next session, I shall be able to give to the Society the number of building societies, with an estimate of the amount of money paid into them by the working classes, and it will then be seen that the subject is one of great importance. All friends to improvement are anxious to see the men who labour, reaping and enjoying the fruits of their industry; and those who have given any attention to the habits of that class, will rejoice to perceive the many signs which exist of a growing disposition to provide for future exigencies, and to acquire a social position by the possession of a small property. But to direct that disposition aright is of great consequence. Mr. Neison has done very valuable service by his exposition of the erroneous calculations by which the payments to friendly societies are regulated; and I am sure that very many of the building societies are proceeding upon a course of action equally unscientific; and if the results are not likely to be so extensively injurious to the members as in the case of friendly societies, still the mischief ever and anon accruing from failures and loss, is calculated to check the growth of those thrifty and saving habits which are in such rapid and satisfactory development among the working classes. I have explained the business of a building society; and it is the principle of receiving small payments, accumulating a fund, and advancing it to the members on the security of small properties, that is adopted by the freehold land societies. As societies, they do not purchase property, nor have they legally the power to do so. The mode adopted is, however, simple enough. When an estate eligible for the purposes of the society presents itself, and the title has been fully examined, the trustees, or some other members of the direction, or perhaps some persons having no connection with the society, purchase it with their own money, and hold it at their own risk until it is subdivided and sold to such of the members as are entitled to advances of money, and who have approved of and selected one or more allotments, according to the number of shares they hold. There are two classes of shares—completed and uncompleted shares. Some members pay up the amount of their shares at once; others adopt the plan of paying one shilling per share per week. When an estate is laid out, it is subdivided in such a manner as to give the proportions due to the completed and to the uncompleted shares. The owners of the completed shares have the liberty of choosing from the number allotted to that class in the order they stand in the book, and they are at liberty to decline the allotments offered until they can be well suited. In the case of the owner of a completed



share making a choice, he receives his title-deeds at once, and the claim of the society and his obligation to it cease. Every owner of an uncompleted share having and exercising the right of choice, and receiving an advance of money to pay for his allotment, executes a mortgage to the trustees, the expense of which, by an arrangement entered into with the society's solicitor, is thirty shillings, besides the stamp-duty; and besides continuing his subscription on the sums advanced, pays interest on the money borrowed at the rate of sixpence per month for every five pounds advanced, but is entitled to his fair share of the profits made by the society. If a member has a right of choice accruing, and does not wish to make choice of a plot of land, he can dispose of his right of choice to any other person. It will be seen that the society does not purchase the land: that is done, so to speak, out of the society, the society merely advancing the money necessary to pay the price. The profits of these societies are considerable. In the first place, the land is bought in large estates, and sold to the members at so much advance upon the wholesale price as will cover establishment expenses, and the estimated cost of road-making, sewerage, &c. Thus a shareholder obtains a single allotment at the wholesale price, and the difference between the wholesale and retail price is found to be as great in land as other articles of sale. As a fair average example, I may quote one case at Birmingham. The first freehold land society established there bought a piece of freehold land suitable for cottage-houses and gardens, and within a working-man's distance from the centre of the town, at 1s. 3d. per yard, the price previously asked having been 3s. 6d. per yard, in separate allotments. Many of these allotments have since fetched large prices—one, which cost its first possessor only 17l. 10s., sold for 50l.; and in this case, nothing was due to novelty or other adventitious circumstances. The ground was particularly eligible for building the class of houses inhabited by working men and their families, and when roads had been made and the allotments laid out, it was eagerly sought.

It is urged from these circumstances, that the freehold-land societies form a most eligible investment for the small savings of the working-classes; and many argue the question as if it was desirable to induce them to choose these societies in preference to the sick societies and the savings banks. We expect to find the same tendencies to extravagance in the promoters of these societies as in all others; and, elated by a temporary success, which has been very remarkable, it is not much to be wondered at that they form exaggerated expectations of what may be effected by their favourite institutions. The value of any provision made by a working man for sickness or accident, to which he is always liable, depends almost entirely on its capability to be made available in the very hour of need, and to supply as much as possible the loss of his regular weekly income, and to be supplied to him in the same manner. A small freehold would not occur to me as the article that could be the most readily turned into money; and it is possible that, from pressing necessity, he might be compelled to dispose of the estate which had been purchased by the savings of years at an enormous sacrifice. Besides, I do not regard the freehold-land societies as anything more than an experiment. I have every confidence that those of them which are prudently managed, and conducted with a view to

the single purpose of providing for their members, at a cheaper rate than if they were to seek them out single-handed, a plot of ground for a garden, or on which to build a house, will succeed. But I believe that the sound policy is not to shake the reliance which the small trading and the working classes have had in life offices, sick societies, and savings banks, but to teach them the right principles upon which such institutions can alone be successfully conducted; to encourage the influential classes, who have more leisure to study the principles of such institutions, to lend aid and countenance in their formation, improvement, and management; and to induce the Legislature to surround them by proper safeguards, and to free them as much as possible from legal difficulties. Freehold-land societies, I admit, may be made eminently useful: the working man, however, should not be encouraged to invest the whole of his savings in them, but only to seek their aid as a means of obtaining a small property which he can appropriate to the purposes already mentioned.

I have pronounced these societies an experiment, and will now point out what I conceive to be the risks. The members have the power of selling the rights as they accrue. Very considerable sums are made by individuals in this way, in particular cases as much as 20%, 25%, and even 30%. Persons of small capital, encouraged by these profits, have invested considerable sums in some of the societies, and, by taking a large number of shares, have rights constantly accruing, which they sell to profit, and besides buy the rights of others, and thus become traders in shares. Directors and officers, in some cases, have fallen into the habit of buying and selling shares. When the managers of an institution are thus engaged in small speculations of this kind, various evils must necessarily arise, sooner or later. Dissensions will spring up—jobbing is inevitable, and there will be a tendency to put a false value upon the rights which are to be sold, and to depreciate those which have to be bought. The success of the institutions depends very much upon this kind of speculation being kept in check—for to prevent it I conceive impossible. Besides, such examples are tempting, and dangerously so to working men. All men are somewhat impatient of the slow steps to acquisition, and eagerly grasp at any quick means of securing desired ends. I should deplore any kind of speculation of this kind obtaining amongst the working-classes; it would be a serious injury to them. My experience has forced me to this conviction, that it is well not to place large sums, or great occasional gains, in the hands of men who have to depend upon wages, and who are unaccustomed to trading transactions or to the use of money in large sums. Immense evils have resulted from the facilities afforded to the humbler classes, by money clubs, and loan funds, for obtaining sums of money much beyond the sums they have ordinarily at their disposal. While, therefore, I should hail any machinery which enables the working man to make the most of his small savings, and that would give him facilities for acquiring a garden or house for himself, the possession of which, by feeding an honourable pride, could not fail to make him a better citizen, and which might be left as an inheritance to his children, I should think the advantage very dearly purchased, if, at the same time, it encouraged a speculating spirit, and, as in many painful cases I have known in relation to building societies, induced him to neglect the



steady sources of gain arising from his regular employment, for the more flattering, but very uncertain, profits arising from trading in shares and rights of appropriation. One objection to these societies, often urged, is not inherent in them, but the circumstances which have given rise to it have sprung from an oversight on the part of those who made the first arrangements. The objection is, that a race of squatters will be created. A friend of mine rather jocosely refers to some place where a gang of gipsies have located upon an allotment. This could not often occur, I apprehend; but I must say that one or two of the estates of the National Freehold Land Society cut a very odd appearance, as you whirl past them on the railway. I have observed on one, a villa-residence looking out upon a two-roomed cottage, and in another the first building occupied happens to be a beer-shop. But most of the societies now affix conditions similar to those I have referred to, as to the class of house to be built. Some such restriction is necessary in a sanitary and economical point of view, and the interests of the members will suggest the proper remedy.

I must notice that, although these societies were commenced for a political purpose, the political object has been lost sight of in the commercial. As a vote-creating machinery, they have not realized the objects of the projectors, as I know no case, except that of South Warwickshire, where the votes made have had any sensible effect at the poll-booth. I apprehend there are very few of the discreet managers of the societies who will not admit that it is better that they should be what they now are—merely trading companies—than political institutions. It is certain, however, that they never could be, in a strict sense, political societies. They have no power over the man who takes advantage of their machinery to acquire a freehold and a vote; they do not ask any man his political opinions, nor refuse any one because he may be assumed to hold opposite opinions to their own. Whatever may be the name adopted, for convenience or by predilection, the same rule applies in all cases: they could not, if they would—and, I believe, would not, if they could—apply any test. The Church of England Freehold Land Society will readily accept the Dissenter—his only qualification is that of paying his money, and obeying the rules and regulations of the society. The Conservative Land Society has, I know, Radicals among its members; and I have it on the best authority, that in the National Freehold Land Society an active Conservative got possession of an allotment upon one of their estates, and made use of the qualification, and the knowledge it gave him, to oppose the claims of his brother allottees upon the same estate in the revising barrister's court. In no case can they exert any power or undue influence over the member who has obtained his allotment. In fact, as it will be seen from the explanation I have given, the society does not sell him the land, nor is the land at any time in their possession—they merely advance him the money by which to purchase it. Any political test would be illegal.

The most favourable feature of the whole movement is, that it furnishes unmistakeable evidence of a strong desire existing among the industrious classes to improve their condition, to acquire a stake in the country, and to rank themselves in a higher social position. This desire, by careful and prudent management, may be turned to profit-

able account. Mr. Taylor, of Birmingham, states that out of the 50,000*l.* paid into one freehold-land society in Birmingham, one-third was rescued from the public-house. This is very likely to be the case, from what I know of the matter. I should not, however, think that such is the case in the metropolis; but all such estimates must be very arbitrary. The officers of the societies can only give an opinion as to the number of the working-classes in proportion to other classes—they have no means of ascertaining the precise numbers. But whatever may be the actual facts of the case, there can be no doubt that all such institutions divert much from the channels of waste, and are, therefore, highly important and useful. I have only one or two practical remarks to add, or rather to repeat. There is a disposition among a large bulk of the people to acquire small properties, and all must rejoice at so favourable a sign of the times. It may be cultivated to the improvement of the people and to the security of the state, in a sanitary, social, and (using that word, not in its restricted, but in its highest and best sense) political point of view. It is therefore wise not to look coldly on so large and popular an effort, nor to neglect it; but to trace its workings, find out its imperfections, and to give a proper direction to the energies which have been called into active exercise. I know of nothing which would render a greater service to the working classes than that of giving them sound instruction as to the principles upon which freehold-land societies, and other kindred societies, may be safely and profitably conducted; and with the humble hope that I might be able to stimulate some fellows of this Society who are eminently qualified for such investigations and such labours, I have ventured to throw this hasty and imperfect sketch before them.

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*On the Cholera Mortality in Hull during the Epidemic of 1849.*  
By HENRY COOPER, M.D.

[Read before the Statistical Section of the British Association at Hull,  
9th September, 1853.]

THE analysis of the mortality of the epidemic of 1849, so far as relates to this borough, which I now present to the Section, was projected with the concurrence, and has been effected through the kind assistance of the late lamented registrar, Mr. Thorney, and of the registrar for Sculcoates, Mr. Chatham, who readily acceded to my proposal to classify the cholera and diarrhoea deaths of the fearful period to which I allude, from the official records in their hands. Their returns have been the materials which I have analyzed and placed in a connected and synoptical form in the tables and diagrams which I now present, and from which I shall venture to draw some general inferences.

I have taken the four months, from July to October inclusive, as the period of the epidemic outbreak of the disease. Isolated cases had occurred for some weeks previously; and, as is usual, severe and intractable forms of diarrhoea preceded and accompanied the attack. The termination of the outbreak was abrupt, differing, in this respect, from its outset, which was gradual and insidious; and there was, to say the least, a *coincidence* between the disappearance of the disease and the adoption of preventive measures of treatment (house-to-house visitation and checking the early diarrhoea), which was very remarkable. The greatest mortality was attained in the first week in September; and the system of house-to-house visitation, of which I was superintendent in this district, was commenced on the 20th, from which time the disease rapidly declined, and ceased altogether in the second week in October.

Regarding the general character and extent of this outbreak, the Registrar-General, in his "Report on Cholera in England," states, that Hull, in proportion to its population, suffered more from cholera than any district in the kingdom. In Hull (*viz.*, the old town and Myton) it was fatal at the rate of 241 to every 10,000; in Sculcoates, at the rate of 152 to every 10,000. We shall, I believe, turn this awful lesson to the best account by investigating the circumstances and conditions under which this great mortality has occurred; and thus approach, as near as the nature of the subject will allow, to the causes of its extraordinary virulence.

It may be premised that the town stands on a surface practically level, and that this level is so little above the low water of the tidal rivers (the Hull and the Humber), which constitute the natural outfall, that efficient natural drainage is almost impracticable. The only irregularities of surface are caused by artificial works, *viz.*, the excavation of the docks and the mounds of earth thrown out of them on the one hand, and the hollows formed by digging out clay for bricks, on the other; for the subsoil is a stiff retentive clay, very well adapted for brick-making, and, therefore, almost impervious to water. There is a difference between the highest and lowest levels thus

formed of about 10 feet ; but the fall obtained from the lowest levels into the adjoining rivers, which is only available for a limited period of each tide, is practically insufficient for their effective drainage ; and accordingly, in the new plans for the drainage of the borough, recently sanctioned by the Board of Health, the sewage is to be pumped from a level many feet below the outfall of the present drainage system. Overcrowding is also a prevalent evil in many parts of the borough ; and the mode of construction of tenements, and of the other lower classes of dwellings, has been, prior to the control now exercised by the Local Board of Health, very unfavourable to ventilation.

The first general analysis (see Table I.) which I have made of the mortality enumerates the total number of sufferers from cholera and diarrhoea, and states the proportion of these to the whole population, which has been assumed at that period to have been 80,000 ; the census of 1851 giving 82,000. The cases are further arranged according to sex, the numbers of males and females suffering from each disease being distinguished. The proportion between these numbers is further compared with that which obtains between the sexes in the whole population. This comparison corrects the first impression given by the tables, and which I believe to be the general one, that cholera is more fatal to females than to males. It is true that the female deaths exceed the male in the proportion of 975 to 885 ; but the female population exceeds the male in a still greater ratio—thus the deaths are 1 male to 1·1 female—the numbers living in this borough are in the proportion of 1 male to 1·14 female, giving a small difference in favour of female mortality.

And this corresponds with the observation of the Registrar-General, deduced from the whole field of cholera mortality. He states the deaths of males at 26,108, of females at 27,185 ; but correcting for the disproportion in numbers living of the two sexes, he gives, as the male mortality, 30·2 to every 10,000, or 1 in 331 ; the female, 30 to every 10,000, or 1 in 333. In the deaths from diarrhoea, the proportion between the sexes is more nearly balanced, so that, applying the same correction for numbers living, the result would be still more favourable for females ; but the total number of cases I consider too small to furnish a safe deduction.

In the third table I have made an analysis of deaths from cholera and diarrhoea, according to the *Age* of the sufferers, dividing the ages in all but the upper and lower rows of figures into quinquennial periods. The same principle of correction must be applied here as in the case of sex, as there are a greater number of infants living under one year than of persons at any other age, and the mortality from all causes is also greater in proportion to numbers. This correction is attempted by introducing in the fourth column the annual mortality per cent. from all causes at each period of life, thus affording an opportunity of comparing the ordinary mortality with the mortality from cholera for the same age. The excess of infantile mortality is the most striking feature exhibited in this table ; but great as it is, it is much understated when compared with other periods, inasmuch as it is a return of deaths taking place in one year of life only (*viz.*, under 1), while the others represent the numbers dying in five-year periods, and would require to be divided by five to make the comparison just.



I have, therefore, cut off this first row of figures from the rest of the table by an horizontal line. The same remark applies to the ages above 70, which are divided into decennial instead of quinquennial periods, and are, therefore, similarly separated.

Comparing the deaths at given five-year periods with the average mortality from all causes at the same age, as in the case of infant mortality just given, the next period of greatest mortality occurs from 30 to 35, a period at which the annual mortality is very low (1.160 for this borough). This mortality is remarkable, as occurring at a period when the powers of life are in their fullest vigour, and when, consequently, the most resistance is opposed by the system to the inroads of disease generally. It appears to afford another link of affinity between this mysterious disease and the fatal pestilences of bygone times, and the graver forms of fever in our own, which are seen to strike down the strongest and those least liable to ordinary forms of disease, if exposed to their influences in circumstances favouring the attack. Another period of great apparent proclivity, according to this table, occurs at a time a little beyond the grand climacteric, about 55 to 60, where we have a great mortality indicated compared with the annual ordinary rate shown in the fourth column. The greatest immunity seems to be enjoyed in the periods between 15 and 25, and between 40 and 60.

Turning to the Diarrhœa Age Table (No. IV.), although, perhaps, the numbers are too small to draw any safe deduction from, we cannot but be struck with the enormous excess of infant deaths, the immunity of the middle periods of age, or those of greatest resistance, and the excess again in advanced life, where the powers are failing. In this respect, diarrhœa, even when connected with cholera (and therefore assumed to partake of its specific character), seems to follow the ordinary law of disease, though far in excess of that law, and separates itself from cholera and other fatal epidemics.

In the second table, the influence of occupation and station in life on the mortality of cholera is approximately shown. It will not be necessary to do more than refer generally to the table itself, which carries on its face the information it is calculated to convey. A division is made first into the labouring and the well-off classes, each of which is analyzed; the former into out-door and sedentary workmen (some of the most important of which are specified) into sailors, and into the wives, females, and children of these classes; the latter is shortly divided according to employment. The general result is that 1,738 of the labouring classes, and 122 of the well-off classes, perished; and, if we assume that the borough contains 67,000 of the former, and 13,000 of the latter, we shall have a proportion of 1 death to every 38.55 of the labouring classes, and 1 to 106.55 of the middle and upper.

TABLE I.

*Mortality from Cholera and Diarrhœa in the Borough of Kingston-upon-Hull, from June to October, 1849, (inclusive).*

Total Deaths, 2,115, or 1 in 37.82 of the entire population.	{ Cholera..... 1,860 or 1 in 43.01. Diarrhœa..... 255 or 1 in 313.72.	{ Males..... 885 Females .... 975 Males..... 129 Females .... 126	{ Or 1 male to 1.1 females. (The proportion of all living being 1 male to 1.14 females.)
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TABLE II.  
*Analysis of Cholera Deaths, according to Occupation.*

LABOURING CLASSES.			
Paupers and Prisoners .....	27		
Out-door Labourers .....	237		
Cabmen and Police .....	22		
Sedentary Labourers (not specified).....	120		
			406
<i>Specified Artizans.</i>			
Joiners .....	61		
Blacksmiths and Engineers .....	56		
Tailors and Shoemakers.....	74		
Painters .....	15		
			206
Sailors .....			110
Wives, widows, and children of the same class.....	734		
Spinsters of same class .....	153		
Unclassified, chiefly children of same .....	129		
			1,016
			1,738
WELL-TO-DO CLASSES.			
Clerks .....	16		
Tradesmen .....	60		
Retired, Pensioners, &c. ....	18		
Professional (2 medical) .....	6		
Gentry.....	22		
			122
			1,860
			Death. Living.
Estimated number of Labouring Classes in borough 67,000 = 1 to every			38.55
,, ,, Well-to-do ,, 13,000 = 1 ,,			106.55

TABLE III.  
*Ages of Cholera Deaths.*

Periods of Life.	Whole Number Dying at each Period.	Per-Centage of Deaths at each Age to whole Deaths (1,860).	Annual Mortality per Cent. at each Period. (For Comparison.)
Under 1 .....	84	4.51 ( × 5 = 22.5)	24
1 to 5 .....	174	9.46	1.16
5 „ 10 .....	136	7.36	.508
10 „ 15 .....	82	4.43	.780
15 „ 20 .....	59	3.17	1.104
20 „ 25 .....	124	6.66	
25 „ 30 .....	160	8.60	1.160
30 „ 35 .....	161	8.65	
35 „ 40 .....	104	5.55	1.95
40 „ 45 .....	130	6.98	
45 „ 50 .....	103	5.53	3.21
50 „ 55 .....	101	5.43	
55 „ 60 .....	158	8.59	6.99
60 „ 65 .....	84	4.51	
65 „ 70 .....	72	3.87	15.89
70 „ 80 .....	67	3.59	
80 „ 90 .....	48	2.58	33
Above 90 .....	13	.69	
Total .....	1,860		



TABLE IV.  
*Ages of Diarrhoea Deaths.*

Periods of Life.	Whole Number of Deaths at each Period.	Per-Centage of Deaths at each Age to whole Deaths (256).	Annual Mortality per Cent. at each Period. (For Comparison.)
Under 1 .....	90	35.55	24
1 to 5 .....	59	23.04	1.16
5 „ 10 .....	21	8.28	.508
10 „ 20 .....	6	2.34	.784
20 „ 40 .....	10	3.90	1.295
40 „ 60 .....	26	10.05	3.99
Above 60 .....	44	17.23	....
Total .....	256		

I have attempted, though I fear very ineffectively, to show in the map which I exhibit the localities in which the disease was most fatal. The shading indicates, by its relative intensity, the lowness of the level and consequent presumed inefficacy of the drainage. The dots or dark marks are placed wherever cases of cholera occurred, each mark indicating a death by cholera in the street or court where it took place; these dots will, by their aggregation, show strikingly the spots of greatest mortality. It is obvious that the preponderance of these dots exhibits, in many cases, merely the excess of population in a given district, for where the greatest number are living, the number of deaths will also be the greatest, supposing there is no disturbing cause determining the mortality to one place in preference to another. But beyond this obvious cause of excess, and not accounted for by it, we have on this map three principles indicated as influencing the prevalence of cholera in any particular locality. First, the influence of low position and deficient dryness; second, the effect of over-crowding even in well-drained districts; and lastly, the influence of the habits of the inhabitants, their means of sustenance, and general social condition. Unfortunately, these causes so constantly co-exist, that it is extremely difficult to find instances in which they can be clearly separated, and the effects of each satisfactorily estimated. Some of the districts here depicted will, however, afford illustrations of each principle. In the Drypool district, for instance, we have a deep blotch of accumulated deaths—here we have all the above causes in operation, but especially defective drainage and damp and filthy surface. In Leadenhall Square and its neighbourhood the drainage belongs to the best system of sewerage in the town, and is, on the whole, good; but the overcrowding of tenements and lodging-houses is great, and the social habits deplorably bad. In Mill Street (the quarter of the low Irish), the same two causes are in operation, but particularly over-crowding. The Pottery districts suffered dreadfully, as the dark marks sufficiently attest. It will also be seen by the deep tints of the shading, that the levels are very low; the drainage is wanting, or so bad as to be worthless, as the recent underground survey has abundantly proved; the two other elements of excessive mortality are not present. But there is a marked freedom from disease in the more elevated districts which surround the docks, and which enjoy other favourable hygienic conditions, which, taken in connexion with the instances above noted, sufficiently prove the correctness of my positions.

*On the Relative Prevalence of Diseases in Hull, and the Effects of Season upon Disease.* By HENRY COOPER, M.D.

[Read before the Statistical Section of the British Association, at Hull, 9th September, 1853.]

BEFORE entering on the special subject of this essay, I wish to say a few words on the annual rate of mortality of the borough.

In assigning a rate of mortality to Hull, it has been the practice of the Registrar-General to separate the returns of death in different parts of the borough, and give them under several distinct heads; and the same mode of stating the mortality has been adopted in all observations and calculations founded on these reports.

The mortality of the borough is given under the several heads, "Hull," including the town and the two Mytons; "Sculcoates," including the two registration districts of that name; and "Sulton," "Drypool," and "Southcoates," parts only of which districts are included within the limits of the borough. But as the town is known only as "Hull," the mortality of the portion included under that term is assumed by the public as the mortality of the whole, an error of some importance, as leading to a very exaggerated estimate of the rate of mortality. For the district thus designated as "Hull," includes little more than half the borough, and comprises the most densely populated parts, at the lowest levels, and the least favourably circumstanced as regards hygienic conditions. It contains, besides the general hospital, the gaol and the workhouse. Hence, its mortality is disproportionately high; it is stated in the Registrar-General's Reports, on an average of seven years, terminating 1846, to be 1 death in 33, or 3·008 per cent. of all ages. The infant mortality, now generally accepted as the most sensitive test of the force of morbid influences, ranges also very high; it is, on an average of the same period, 29·026 per cent. annually, under 1 year, and 10·184 per cent. under 5 years. But in Sculcoates, we have a mortality of only 1 in 40 males, and 1 in 44 females; or 2·487, and 2·240, per cent. respectively, instead of 3·008, as just quoted for the other portion of the borough. The infant mortality of Sculcoates is 26·886 under 1 year, and 8·617 under 5, against 29·026 and 10·184 in Hull. The mortality of the other parts of the borough, east of the river, cannot, from being included in the parishes and townships of which they respectively form a part, be obtained from the Registrar's Reports, or any other official documents. Their hygienic condition is deplorably bad; the mortality is intermediate between that of Hull proper, and Sculcoates, being 2·47 per cent. Thus it is clear that, in assuming the mortality of the Hull district alone to be that of the whole borough, we attribute to the whole the rate of the most unhealthy portion only.

The mortality of the three years succeeding to 1846, though not so favourable to the borough generally, exhibits the same difference between its different parts. The Hull district had 1 death to 29 living; the Sculcoates, 1 to 37; and, in West Sculcoates, the most healthy, 1 to 42;—the average of the whole borough being 1 to 33·17.

The mortality due to the epidemic of 1849 has been made the subject of a separate memoir. For the three subsequent years it



stands as follows :—The population at the census of '51 was 82,502 ; taking this as the mean of the number living in the three years, '50, '51, '52, we have a mortality for the whole borough for that period of 1 to 32·79, the average number of deaths being 2,522 ; and the returns of the two first quarters of the present year raise the rate again to something above 1 to 33 for the whole borough.

In investigating the question, which is the proper subject of my paper, viz., the order of prevalence of disease in Hull, *irrespective of fatal issue*, we have not the ready data furnished by the Registrar's reports, or by any official local record, for our guidance. The medical charities of the town have, however, for a greater or less period, and with more or less exactness, recorded the name, ages, and diseases of applicants for relief ; and it is from their books that the tables now before us have been compiled. In the first table are classified 21,712 cases from the books of the infirmary and dispensary of this town ; extending over a period of 10 years in the former institution, and of 3 in the latter. The sources from which the cases have been derived (*i. e.*, the out or in patients) have been separated, as indicating different classes of cases as well as intensity of disease. The cases have, in this table (A), been further analysed into years, shewing what diseases are liable to assume an epidemic character, and in what years they have done so—thus, fever was prevalent in 1840 ; rheumatism in 1842 and '46, &c., &c. The cases are classified in eight divisions, which show, at a glance, the great tendency to pulmonary, rheumatic, and dyspeptic disorders ; and the comparative exemption from fever, from which Hull suffers, perhaps, less than any other town of its size. This is the more remarkable, as we have had too fatal evidence that the town is liable to those epidemic influences which have always been considered closely analogous to fever in their laws of origin and propagation. The proclivity to pulmonary and rheumatic diseases will excite no surprise when the geographical position of the town, and the large quantity of water by which it is surrounded and intersected, are considered. It will not be necessary that I should particularize the other less prevalent diseases : the last column of this table is, however, remarkable, as indicating a much less amount of susceptibility of the alimentary mucous surfaces under ordinary conditions than would have been anticipated.

I have been compelled to omit from the enumeration the zymotic diseases generally, because they are specially excluded from the hospital treatment, and only casually become dispensary cases. Their number, as recorded in these books, is, therefore, so small as to give a most inadequate representation of this most important and numerous class of diseases. In Table A, the relative prevalence of each form of disease is indicated by its per-centage of the *whole number of cases observed*, which is placed at the foot of each column respectively. The totals, with their proportion per cent. to the whole observed cases, appear in the lowest line of the table ; to them I would direct attention, as illustrating the above remarks.

A diagram\* has been compiled from the whole series of 21,702 cases, extending over 10 years, and may, therefore, be presumed to give a tolerably near approximation to truth. We remark the high

\* Want of space precludes the possibility of printing this diagram.

TABLE showing the Relative Prevalence of Different Diseases in Hull, the Prevalence of each Disease in different Years, and Proportion Per Cent. of each Disease to whole Number of Cases observed.

Return for 10 Years.	Total Cases.	Fever.	Pulmonary Diseases.	Rheumatism.	Dyspepsia.	Neurosis.	Uterine.	Cachexia.	Diarrhoea.
Infirmary. O. P.	1842.....	63	187	102	207	167	59	37	33
	1843.....	34	196	72	192	116	85	23	24
	1844.....	28	188	79	193	141	81	88	24
	1845.....	16	168	58	104	90	89	49	18
	1846.....	53	111	105	203	60	65	42	33
	1847.....	53	155	87	197	53	44	39	23
	1848.....	75	123	69	204	61	84	52	38
	1849.....	35	139	74	162	56	58	53	33
	1850.....	45	161	82	143	78	60	59	27
	1851.....	41	160	80	159	82	73	53	30
Total per cent.	13,891	443 3.19	1,588 11.43	808 5.81	1,764 13.00	904 6.50	698 5.02	495 3.56	283 2.03
Infirmary. I. P.	1849.....	57	65	74	19	12	19	22	10
	1850.....	34	50	73	21	29	20	21	9
	1851.....	44	82	75	13	27	27	19	7
Total per cent.	2,274	135 6.00	197 8.66	222 9.76	53 2.33	68 3.00	66 2.9	62 2.72	26 1.14
Dispensary.	1849.....	178	190	131	147	108	68	32	100
	1850.....	149	213	125	153	90	81	32	99
	1851.....	231	314	111	163	114	69	38	114
Total per cent.	5,547	558 10.05	717 12.92	367 6.61	463 8.34	312 5.62	218 3.93	102 1.83	313 5.61
Grand Total—10 years	21,712	1,136	2,502	1,397	2,280	1,284	982	659	622
Per cent. ....		5.23	11.52	6.43	10.5	5.88	4.52	3.03	2.86



point at which pulmonary diseases start at the commencement of the year, and which they maintain, with slight fluctuations, till the end of May, when they fall very rapidly to the minimum, in August, and rise again equably through the autumn months to the winter level in December. Dyspepsia begins low in the winter, runs rapidly to its culminating point in May, in which it coincides with pulmonary affection; it attains, however, a much greater height than the latter, and then falls rapidly through the autumn, finishing at the medium winter level. Rheumatism has its maximum in winter, with an exacerbation in August and November, which coincides well with actual observation; it takes a rapid rise from December to January. Fever maintains the most equable course of the four curves; it also culminates in May (which should, so far as these three diseases are concerned, be a very unhealthy month), has a sudden depression in July, rises above the level in the autumn months, and again sinks to the winter level in December.

I believe that these results correspond accurately with the experience of practical men in this town, both as to the relative prevalence of diseases and the seasons at which their greatest developments take place; and it is a satisfaction to have confirmation and exactness given to practical views by the application of the numerical method.

A few words on two or three important forms of disease, our records of which do not furnish materials for numerical illustration. Ague was, 25 years ago, very frequently seen in our hospital, the cases being principally supplied from the low wet clays of Holderness and the fens of Lincolnshire. For 10 or 15 years, however, ague has been a rare disease, a fact which was attributed, no doubt correctly, to the greatly improved drainage of both these districts, particularly of Holderness, in which a very complete system has been carried out.

But we have remarked, within the last year or two, that these cases have ceased to be uncommon; and that there has been a great disposition, in certain depressed states of the system, to take on an intermittent character of disease. And, what is still more singular, I have succeeded in tracing several cases, within the last few months, to their origin in the *badly drained portions of the borough itself*, individuals, who have not been out of the town for many months, having been attacked, and resisting treatment for a time, as if still under the influences which produced the disease. Is it possible that the town is now more saturated with moisture than the country district? And if so, of what character must that moisture be, with what materials charged, and what the nature of exhalations from it?

An examination made by me in 1845, at the request of Mr. B. Phillips, who was then preparing his work on Scrofula, showed a very large per-centage of children exhibiting marks of that disease frequenting the public schools of the town, and generally of the lower orders. I regret that I have not the papers by me, but I believe that they indicate a prevalence above the average given by Mr. Phillips, viz.,  $24\frac{1}{2}$  per cent.

*On certain Statements contained in a Communication to the Statistical Section at Belfast, in September, 1852, entitled "Statistics of Portsea and Portsmouth Dockyard."* By LADY BENTHAM.

[Read before the Statistical Section of the British Association, 13th Sept., 1853.]

THE *Quarterly Journal of the Statistical Society* for this month contains the "Statistics of the Island of Portsea." The article had been communicated in the year 1852 to the British Association for the Advancement of Science; but as there are a few inaccuracies in that statement, I take the liberty of submitting to the British Association a few facts relative to the dockyard at Portsmouth, confining myself to occurrences of the end of the last, and beginning of the present century. I should not venture thus to encroach upon the time of the Association, were it not that, having had confided to me the copying of most of the private papers that passed between the then First Lord of the Admiralty and the Inspector-General of Naval Works, as also many of his official papers, I became acquainted with particulars not generally known at the time, and of others which, after the lapse of half a century, seem not likely that other persons should be acquainted with.

The *Journal* (p. 205) states, that "Apprentices continued to be a source of emolument to the professional officers down to the date when the Board of Revision sat, early in the present century." It must be observed, that the first report of the Commissioners of Naval Revision was not made till 13th June, 1805, whereas the Order in Council of 21st May, 1801, increased the salaries of dockyard officers, and at the same time decreed, "that on the commencement of the salaries under the new establishment, all pay on account of apprentices should cease, excepting only in those cases where it appears, by the indentures, that the master has engaged to make an allowance to the apprentice, in which case," &c., those increased salaries became payable on the 1st day of July, 1801.

To ascertain the approximate amount of the wine, sugar, groceries, &c., usually received by dockyard officers, General Bentham obtained from a master shipwright's assistant the quantities of these articles he had received within the year. From this document it appeared, that their cost at moderate prices would have exceeded the augmentation in his salary, independently of the great emoluments derived from apprentices. It must be remarked, that in this instance, at least, these presents were not on account of any particular service rendered to contractors, but were considered by them as authorized dues to dockyard officers.

In the same page, 205, of the *Journal* is a paragraph respecting the allowance of chips to artificers. The various abuses consequent upon this privilege were amongst the earliest ameliorations in dockyard management to which the Inspector-General of Naval Works directed his attention. Besides giving to Lord Spencer his opinion, that the privilege of chips should be abolished, he communicated to the chairman of the Committee of Finance, sitting in 1798, the mischievous consequences of the practice; the chairman, thereupon, issued

*Note.*—Some observations on Lady Bentham's letter, by John Fincham, Esq., late Master Shipwright of Her Majesty's Dockyard, have been forwarded by the Secretary of the Portsmouth and Portsea Literary and Philosophical Society, but want of space prevents their insertion in this No. of the *Statistical Journal*.—[Ed.]



an order to the Inspector-General, 17th April, to give his opinion upon the subject, which accordingly he gave as follows: "I am very decidedly of opinion, that it is highly expedient that the practice of carrying out of the dockyard any article whatsoever, under the denomination of chips, should be abolished;" he then entered into various particulars on which this opinion was grounded: amongst others, that he had "caused bundles of chips to be purchased as they came out of the dockyard, the price of which has been from 2*d.* to 8*d.* a bundle, whereas the pieces when put together have, in some instances, fitted so as to show that a spar, a deal, or a plank had been cut up for this purpose, and that the portion brought away in a single bundle could not have cost the public less than from two to eight shillings." He further stated the reasons which rendered it impossible for dockyard officers to prevent abuse of the privilege, and gave an instance where an officer, who had attempted it, was, in consequence, obliged "for some time to be guarded on his way to and from the dockyard." After noticing many collateral mischiefs, he concluded by saying: "I am convinced that, by abolishing the privilege of chips in all the naval establishments, great savings would arise to the public, far beyond what would defray the expense of the ample addition which it seems just and necessary to make to the pay of the artificers." From this time the abolition of the privilege was determined on by the Board of Admiralty, and the Inspector-General was looked to for an indication of the rate of allowance to be accorded in lieu of it. It was in conformity to his suggestions, that the rates of compensation were fixed upon by the Admiralty, and sanctioned by the King in Council, 21st May, 1801, namely, 6*d.* a day to shipwrights; to caulkers, joiners, and house-carpenters, 4*d.*; to scavengers and labourers, 3*d.* It was on this occasion, that the Inspector-General exhibited the facility with which weekly, instead of quarterly, payment might be made to the operatives. The paragraph in the Order in Council says: "this additional daily allowance, under the denomination of chip-money, should be paid *weekly* every Saturday, *after* the working-hours." The Navy Board were apprehensive of an outbreak of the operatives in consequence of this regulation; but they, as a body, were well pleased to be exempted from this necessity, as it were, of thievery, and no disturbance ensued.

Page 208 of the *Statistical Society's Journal* mentions the introduction of General Bentham to Portsmouth Yard. It had happened that the General, having in operation a system of machinery of his invention it was visited by many of His Majesty's Ministers, amongst others by the First Lord of the Admiralty, who, in the course of repeated conversations, elicited several of the General's ideas respecting the dockyards; a wish was, in consequence, expressed that he could visit them, and that he should propose to do so. He accordingly addressed a letter to the Secretary of the Admiralty. The next day he received the following authority for visiting those establishments:—

"Admiralty Office, 22nd April, 1795.

"SIR,—Having taken into our consideration your letter to our Secretary of the 21st inst., wherein you propose to undertake a visit to the dockyards, in order to form a judgment of the instances in which any parts of your system of machinery might be introduced with advantage, and also for the purpose of enabling you the better to mature and point out the means of carrying into execution any further

ideas that might suggest themselves to you; and having in consequence thereof, given directions to the Commissioners of His Majesty's Navy to order their several officers to permit your having free admission into the said dockyards at all reasonable times, for the purposes above-mentioned, and to furnish you with such information and assistance as you may stand in need of, we do hereby authorize and allow you to repair to the several dockyards belonging to His Majesty, to examine into the several works and branches of business carried on there, and desire you to report to us your observations and ideas concerning all improvements of which the said works and branches of business, and the modes of carrying on the same, may in your judgment appear to be susceptible.

"We are, sir, your most humble servants,

"Spencer, Arden, Charles S. Pybus, C. Middleton,

"H. Seymour, P. Stephens, J. Gambier.

"Brigadier-General Bentham."

The *Journal* (p. 209) says: "Soon after this time, General Bentham conceived the plans for very extended improvements in the dockyards," a statement perfectly correct; but although he was desirous of rendering this yard "as complete as possible," this could hardly be considered his "*primary*" object—his first consideration having been not to recommend any work which would not compensate fully for the cost of construction by the savings it was likely to produce, and to object to all that would not do so. Hence arose his objection to a mast-pond that had been carrying on in Portsmouth Yard for about six years, but which, at the same rate of progress, would not have been completed in less than 176 years, and at the astounding expense of 132 *millions* of money; that is taking into account the enormous increase of real, though concealed, expenditure incurred by interest on capital expended. This fact caused the Committee on Finance, during their examination of the Inspector-General, on the 8th May, to ask the witness, "Is there any account kept of the interest of money expended in naval works?" To which he replied, "None in the dockyards, nor yet, I believe, in any of the public offices." He then gave instances of the many evils consequent upon this disregard of the value of the interest of money. The immensity of loss incurred, by neglecting to take interest of money into account, induced him to recur frequently to the subject in his official communications, but ineffectually, excepting as far as they related to works of his proposal.

Brigadier-General Bentham made his first report to the Admiralty on the 29th May. The reasons on which were grounded the alterations he proposed were, an alteration of the jetties, so as to render them doubly efficient; the construction of single instead of double docks; two additional docks, so that, together with the alteration of the jetties, during the same tide six ships might be taken out of the dock, and as many others taken in; a considerable extension of the basin, in order that dockings and undockings might be performed at any time of tide. By these works provision was made for the fitting of twelve ships of the line, at one and the same time, within the precincts of the yard, under the immediate inspection of the officers, instead of ships, as they were up to that time, being fitted at a distance in the harbour, away from inspection, subject to embezzlement and waste of materials, and to idleness and misconduct of the operatives employed upon them. Another of the important improvements he proposed, and which has been productive of immense savings, was the deepening of the sill of the basin, in order that any ship might be taken into it that could float over the rocky bed at



the entrance of the harbour; thus "ships with their *lading* may be taken into the basin without obstruction; and, in respect to as many ships as the basin will hold, the time employed in taking out and replacing the guns, provisions and stores of all kinds, will be saved." The new docks he proposed should be made of sufficient depth for receiving a ship with *all in*, and the existing shallow docks be made adequate to the same purpose by pumping into them. "These improvements made," he added, "I see no reason why a number of ships, equal to that of the docks in the basin, may not come in from Spithead, have their bottoms inspected and cleaned, and go out again fit for sea in the course of three days." In fact, in consequence of these improvements, ships have been so dealt with, the time from one spring tide to the other, saved, and sometimes, indeed, two or three spring tides.

The General's views were highly appreciated, so that their Lordships induced him to relinquish foreign service, and to re-engage in that of his country as Inspector-General of Naval Works, an office created expressly on his account, and sanctioned by Order of Council, 23rd March, 1796: an appointment it is only worth reverting to on account of the very important influence it had on the statistics of the naval establishments in the Island of Portsea.

Page 210 of the *Statistical Society's Journal* gives an erroneous account of the wood mills. It may be seen by their Lordships' letter, 22nd April, 1795, that one of the objects in view, in authorizing his visit to the dockyards, was, that he might "form a judgment of the instances in which any parts of your *system of machinery* might be introduced with advantage." In private conferences with the First Lord, the General recommended the introduction of a considerable variety of the machinery of his invention, amongst others an adaptation of it to making blocks and to give motion by steam-engines. The Navy Board felt alarmed lest their introduction should cause strikes of operatives, feared that steam-engines would set fire to the dockyards, and be productive of other evils; so that, although many of the machines from the General's habitation were already on their way to Portsmouth, the Admiralty privately advised him to refrain from recommending *officially* either his machinery, or a steam-engine to work it, till the time when new pumping apparatus was required in Portsmouth Yard; then, on the 21st December, 1797, he *officially* proposed a steam-engine, with pumping apparatus, and machinery. This proposal specified in particular, sawing in general, both lengthwise and cross-cutting, edging, tonguing, and grooving, the making of treenails, saying that, "These, amongst various other instances, had occurred to me as giving occasion in His Majesty's dockyards for the substitution of the invariable accuracy of machinery for the uncertain dexterity of more expensive manual labour." The proposal was adopted: several of Bentham's machines were sent to Plymouth as well as to Portsmouth Yard, and by degrees put to work, the force employed being at first that of men. Some of these machines were seen in operation by the Board of Admiralty, in 1802, previously to the arrival of the first of Mr. Brunel's machines.—The model sent to the Admiralty of Mr. Brunel's machine was confined to the cutting and shaping of the shells of blocks, and was, in fact, little more than an adaptation to that particular purpose of several of the inventions the Inspector-General had specified in his patent of 1793. That same

paragraph of the *Journal*, in saying that "the machinery, already constructed in London, was transferred to Portsmouth," is altogether erroneous, if intended to imply that those machines were Mr. Brunel's, for, in point of fact, he never possessed, nor had had made, a single machine for making blocks of full size; his model, exhibited to the Admiralty, being capable of nothing more than shaping a shell of about an inch and a half long: one of its produce he presented to the writer of these lines. Machines used in block making were, indeed, sent from London; but they were General Bentham's machines, not one of them Mr. Brunel's—a fact which can be vouched for, all the bills for the block-making machinery having passed through the writer's hands in the year 1808, and having not long ago been re-examined.

The remuneration to be awarded to Mr. Brunel was considered extremely difficult, as, according to different calculations, it was made to amount to sums varying from about 6,000*l.* to above 20,000*l.* At length the investigation requisite was confided to Sir Samuel Bentham. The savings in the block manufactory resulted from very different sources: there were savings of contractor's profits; savings from the use of Bentham's machines, particularly all of those money-saving ones, all of them Bentham's, for sawing and preparing materials in readiness for the shaping of the blocks and making the sheaves; there were savings arising from good management of the concern, these, too, were consequent upon the mode of management Bentham introduced; and savings arising from the machines which Brunel had a prominent share in adapting to the particular purpose of making blocks. Sir Samuel, in his report, waived his own rights, and recommended that Mr. Brunel's remuneration should be the whole of the savings that were made in a year by the manufacturing of blocks in Portsmouth Dockyard.

The calculations that appear, page 211 of the *Journal*, can hardly have been from good authority, since none such were made in the wood mills, at least up to the end of the year 1812. The shot-rack machine was the invention of Mr. Barr, the master of the wood mills, under General Bentham; so many of the other machines enumerated in the same page are those which were taken from General Bentham's residence, or duplicates of them, or introduced in conformity to his specification of 1793.

The machinery in the wood mills has, in truth, proved of great advantage, since it is admitted that the display of it there, together with Bentham's patents of 1791 and 1793, have given rise to most of the machinery for working wood, and even metals, which, of late years, have added so much to the national wealth.

In a statistical account of Portsea, the metal mills in the dockyard should not be omitted, for therein the savings to Government greatly exceeded those derived from the block machinery and other products at the wood mills. In November, 1812, the savings made at the metal mills amounted to the sum of 40,954*l.* 12*s.* 8*d.* per annum, and this before copper bolts were melted there, on which the profits were more considerable than on sheathing. The wood mills, the metal mills, and the millwrights, were placed by the Admiralty under the Inspector-General's individual management in 1805, and remained as much so as if they had been his private concerns till the end of the year 1812. The operatives employed under the General were of



different descriptions, some few of them skilled workmen, most of them labourers at labourers' pay, others, especially in the wood mills, children. They were all paid weekly, none of their time was lost in musters, and, whenever practicable, the work done was paid for by the piece, so that the industrious skilful workman was amply remunerated according to his deserts, whilst others received pay for no more work than they had actually done.

The safety and the amplitude of Spithead as a roadstead, the facility with which it can be gained in stormy weather, renders Portsmouth the most important of our dockyards; and, during the whole of last war, very much more work was done there in quantity, and at less cost, than at any other of the royal naval establishments, an *esprit de corps* existed too in both officers and operatives, which preserved it from many of the mischiefs observable in other dockyards: so that no such abuses were observable at Portsmouth as were discovered by the Commissioners of Naval Inquiry at Plymouth, for example; Portsmouth was, therefore, well chosen as the source from which example should be drawn of the habitual waste and mismanagement that had place in the manufacturing concerns of the Navy. Lord Spencer, anxious to correct abuses, encouraged the Inspector-General to furnish instances of waste and unnecessary expenditure as they occurred at that port. Glaring extravagance took place in the manner in which timber was habitually converted, many examples of which were given to his Lordship, the Inspector-General, at the same time, pointing out that such abuses were unfailing consequences of *divided* responsibility, so that blame could not be attached to any individual. The First Lord perceived that half measures would be of no avail, and therefore charged the Inspector-General to mature his ideas respecting a *radical reform* of dockyard management, and, in conjunction with Sir Evan Nepean, to draw up a report on the subject, such as their Lordships could submit to the Privy Council; that report to be grounded on the fundamental principles held forth by the Inspector-General. These principles were the introduction of individual responsibility throughout; the entire separation of the accountant from the operative department, whereby the one might be a real check upon the other; the placing all operative concerns under one chief operative officer, making him individually responsible for all the manufacturing business of a dockyard; but, at the same time, placing, as the eye of the Admiralty, a superior officer to see what was going on, and to report his observations to their Lordships, he having also power, whenever a day's delay might be injurious, either to countermand any operation he might think so, or to order whatever he might look upon as beneficial; in all cases, however, of such interposition, the order to be given *in writing*, so that it might remain on record, and further, that the circumstance should, on the *same day*, be reported to the Admiralty. The first idea of this arrangement was given in the Inspector-General's evidence to the Committee on Finance; and the matured measure was, in 1800, printed by the Admiralty in their sketch of a Report to the Lords of the Privy Council. The whole of the measures therein proposed were under further consideration, when the Speaker intimated that the House of Commons would no longer admit of delay of their Lordships' Report on the measures proposed by the Commissioners of Inquiry, whereupon a short report was

hastily prepared by the Inspector-General, again in conjunction with Sir Evan Nepean, was signed by Earl Spencer's Board, 31st January, 1801; but before it could be submitted to the Privy Council, a change of administration took place, the Earl of St. Vincent being appointed First Lord of the Admiralty. His Lordship had, by Earl Spencer's desire, been consulted by the Inspector-General as to the proposed regulations, and had expressed himself convinced of their expediency; so that, when his Lordship came to preside at the Admiralty, he, without hesitation, presented to the Privy Council the Report as signed by the preceding Board.

This report stated, in the first paragraph, that their Lordships had "already made some progress in the preparation of a new system of management, founded on general principles of acknowledged efficacy," gave a general scheme of increased salaries to the several officers and clerks of the dockyards, and agreed with the Commissioners of Inquiry that chips should be abolished.—On the subject of timber, their Lordships expressed themselves to be "very fully convinced of the necessity of adopting some radical improvement in the management of this branch of business;" and proposed various regulations, all of them subservient to the making a single officer individually responsible for its management from the time of receipt to that of its being put to use, at the same time ensuring on its receipt conformity to agreement for it, and showing in the accounts in what service it had been employed. That report having been sanctioned by the King in Council, the carrying the new timber regulations into effect was confided to the Inspector-General, as were the new regulations relating to this store, the forms for accounts, details of management, and instructions to dockyard officers, from the first receipt of timber to its appropriation to use. For three months the introduction of the new mode of management was confided to him. There occurred no difficulty in the dockyards; but contractors found their interests damaged by the necessity they were under of conforming to the terms of contract. Immense savings resulted from these regulations: they continued in force for many years, but by degrees responsibility was done away with by dividing the duty of the timber master amongst several officers—at Portsmouth, the store-keeper, the store-receiver, the timber-inspector, as shown by the navy estimates for 1853–54.

It appears, however, that the fundamental principles on which the proposed reform of 1800 was grounded, are by degrees being acted upon, although Lord St. Vincent found opposition to them in many quarters. In a late investigation, the surveyor of the navy said he considered himself responsible for the number and qualifications of operatives employed in the dockyards; and, in the regulations of 3rd of last March, many officers are made individually responsible for their recommendations of apprentices, artificers, and officers for promotion; as is likewise the surveyor of the navy made responsible; even the superintendent, in his report, is to state "his own opinion of the capacity of the candidates;" and what is of first rate importance, on various occasions reports and recommendations are required to be in *writing*, thereby assuring that responsibility which verbal statements never afford.

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## MISCELLANEA.

*Twenty-Third Meeting of the British Association for the Advancement of Science, held at Hull, 7th—14th September, 1853. Section F. Statistics.*

*President.*—James Heywood, Esq., M.P., F.R.S.

*Vice-Presidents.*—Thomas Tooke, Esq., F.R.S.; F. G. P. Neison, Esq.

*Secretaries.*—William Newmarch, Esq.; Edward Cheshire, Esq.

*Committee.*—W. S. Ayrton, Esq., F.S.A.; Francis Bennoch, Esq.; Edward Barrington, Esq.; C. H. Bracebridge, Esq.; H. S. Bright, Esq.; E. F. Collins, Esq.; Henry Cooper, M.D.; Lord Hotham, M.P.; R. T. Jopling, Esq.; John Lee, LL.D., F.R.S.; John Locke, Esq.; Professor Moffatt, LL.D.; Henry Munroe, M.D., M.R.C.S.; William Neild, Esq.; Theodore W. Rathbone, Esq.; The Rev. James Selkirk; William Spence, Esq., F.R.S.; J. A. Tinné, Esq.; Joseph B. Yates, Esq., F.R.G.S.

The following Papers occupied the attention of the Section, viz.:—

1. Statistics of the Produce of the Northern Whale Fisheries, for the years from 1772 to 1852. By Henry Munroe, M.D., M.R.C.S.
2. Statement of a proposed plan of Decimal Coinage and Accounts. By Theodore W. Rathbone, Esq.
3. On the Results of the Census of Great Britain in 1851; with a description of the Machinery and Processes employed to obtain the Returns. By Edward Cheshire, Esq.
4. Electoral Statistics of the United Kingdom. By James Edwards, Esq.
5. Analysis of Mortality from Cholera in Hull, in the Autumn of 1849. By Henry Cooper, M.D.
6. Prevalence of Diseases in Hull. By Henry Cooper, M.D.
7. The Causes, Extent, and Preventives of Crime, with especial reference to Hull. By the Rev. J. Selkirk.
8. On the Results of some Researches relative to the new supplies of Gold, and to the Circulation of Bills of Exchange, 1848–52. By William Newmarch, Esq.
9. Summary of the Census of Switzerland. By Professor Paul Chaix, Corr. Memb., F.R.C.S.
10. On Excessive Emigration, and its Reparative Agencies, in Ireland. By John Locke, Esq.
11. Suggestions for an Improved System of Currency and Banking. By Francis Bennoch, Esq.
12. On the Education of the Poor in Liverpool. By Rev. Abraham Hume, LL.D.
13. On certain Statements contained in a Communication to the Statistical Section at Belfast in September, 1852, entitled, “Statistics of Portsea and Portsmouth Dockyard.” By Lady Bentham.
14. Analytical View of Railway Accidents in the Country and on the Continent of Europe in the twelve years 1840–52. By F. G. P. Neison, Esq.
15. Statistics relative to Nova Scotia in 1851. By Edward Cheshire, Esq.
16. Facts bearing on Practical and Scientific Education. By the Rev. F. O. Morris.

# PROCEEDINGS OF THE STATISTICAL SOCIETY.

## *Fifth Ordinary Meeting.*

*Monday, the 21st day of March, 1853.*

Sir John P. Boileau, Bart., V. P., in the Chair.

The following gentlemen were elected Fellows of the Society :—

J. S. Brewer, Esq., M.A.

William Camps, M.D.

W. S. Gover, Esq.

James Hutton, Esq.

C. L. Macaulay, Esq.

The following Paper was read :—

“On the Administration of Civil and Criminal Justice in British India.” By Colonel Sykes, F.R.S.

## *Sixth Ordinary Meeting.*

*Monday, the 18th day of April, 1853.*

Colonel Sykes, F.R.S., in the Chair.

The following gentlemen were elected Fellows of the Society :—

J. G. Hubbard, Esq.

Samuel Lucas, Esq.

William Quilter, Esq.

David Salomons, Esq.

The following Paper was read :—

“On Railway Accidents.” By F. G. P. Neison, Esq.

## THE MARRIAGES, BIRTHS, AND DEATHS, REGISTERED IN THE DIVISIONS, COUNTIES, AND DISTRICTS OF ENGLAND.

*The Marriages for the Quarter ended March, 1852, and the Births and Deaths for the Quarter ended June, 1853,*

AS PUBLISHED BY AUTHORITY OF THE REGISTRAR-GENERAL.

This return comprises the births and deaths registered by 2,190 registrars in all the districts of England during the Spring quarter ended June 30th, 1853; and the marriages in 12,025 churches or chapels, about 3,396 registered places of worship unconnected with the Established Church, and 625 superintendent registrars' offices, in the quarter that ended March 31st, 1853.

The return of marriages is not complete; but the defects are inconsiderable, and approximative numbers have been supplied from the records of previous years.

The increase of marriages proceeded at an accelerated rate through the first three months of the year; in April, May, and June, the births of children exceeded the average numbers of preceding Spring quarters, but fell a few hundreds short of the births in the Spring quarters of the two previous years.

The Spring in town and country was unhealthy; and the mortality, chiefly owing to the cold weather and the scarcity of potatoes, was considerably above the average.

**MARRIAGES.**—35,014 marriages were celebrated in the first quarter of the year, or 2,081 more than were celebrated in the corresponding quarter of 1852. The unexampled increase of marriages is shown in the annexed Table, where it will be observed that in the Winter quarters 48,894 persons married in 1841, 54,960 in 1847, 70,028 in 1853.

The increase in the marriages is most conspicuous in London, in the seaports, and in the manufacturing towns; in Northamptonshire, Devonshire, Cornwall, Gloucestershire, Shropshire, Staffordshire, Worcestershire, Leicestershire, Nottinghamshire, Cheshire, Lancashire, the West Riding of Yorkshire, Westmorland, and Monmouthshire; in Portsmouth, Plymouth, Southampton, Bristol; in Northampton, Bath, Stroud, Wolverhampton, Dudley, Birmingham, Nottingham, Chester,



Manchester, Leeds, Sheffield, Merthyr Tydfil. In all the most prosperous districts of the country the marriages increased. In Dover, in Brighton, in St. George Hanover Square, in several other districts, and in the eastern counties, the marriages declined.

**BIRTHS.**—The births fluctuate less than either the marriages or the deaths, and in the three quarters ended June 1851-52-53, the numbers were 159,138, 159,136, and 158,718, or nearly the same in amount, but considerably above the average of preceding years. The births, on an average of 10 Spring quarters, were at the rate of 3·428 per cent.; in the last quarter, ending June 30th, the rate was 3·507 on the population.

*Marriages, Births, and Deaths, returned in the Years 1841-53 and in the Quarters of those Years.*

YEARS.....	1841	1842	1843	1844	1845	1846	1847	1848	1849	1850*	1851	1852	1853
Marriages .....	122496	118825	123818	132249	143743	145664	135845	138230	141883	152744	153740	158439	...
Births .....	512158	517739	527325	540763	543521	572625	539965	563059	578159	593422	616251	624171	...
Deaths .....	343847	349519	346445	356933	349366	390315	423304	399833	440839	368970	395933	407938	...
MARRIAGES.													
Quarters ended the last day of													
March .....	24447	25860	25285	26387	29551	31417	27480	28398	28429	30567	32619	32933	35014
June .....	32551	30048	31113	34268	35300	37111	35197	34721	35844	39204	38498	40007	...
September .....	29397	27288	28847	31675	35003	35070	32439	32995	33874	37636	37155	38291	...
December .....	36101	35629	38573	39919	43889	42066	40729	42116	43736	45337	45468	47208	...
BIRTHS.													
March .....	133720	135615	136837	143578	143080	145108	146453	139736	153772	144551	157374	161776	161598
June .....	129884	134096	131279	136941	136853	149450	139072	149760	153693	155865	159138	159136	158718
September .....	123868	123296	128161	130078	132369	138718	127173	140359	135223	146911	150584	151193	...
December .....	124686	124732	131048	130166	131219	139349	127267	133204	135471	146095	149155	152066	...
DEATHS.													
March .....	99069	96314	94926	101024	104664	89484	119672	120032	105870	98410	105446	106682	118241
June .....	86134	86538	87234	85337	89149	90231	106718	99727	102153	92871	99639	100813	107861
September .....	75440	83339	76792	79708	74872	101663	93435	87638	135227	85849	91600	100497	...
December .....	83204	84328	87493	90864	80681	108937	103479	92436	97589	91840	99248	99916	...

\* The numbers up to 1850 have appeared in the Annual Reports.

**INCREASE OF POPULATION.**—As the births of 158,718 children and the deaths of 107,861 persons of all ages were registered in the quarter, a balance of 50,857 remains in favour of the population. The excess of births over deaths is less by 8 or 12 thousands than the excess in the corresponding quarters of the three previous years, chiefly owing to the high rate of mortality in 1853. 115,959 emigrants sailed from the ports of the United Kingdom at which there are Government Emigration Agents; 78,205 to the United States, 20,107 to British North America, 17,152 to the Australian Colonies, and 495 to other places; 7,884 of the emigrants sailed from Glasgow and Greenock, 16,993 from Irish ports, 74,646, including many Irish, from Liverpool, 2,095 from Plymouth, 3,722 from Southampton, and 10,619 from London.\* The emigration from the United Kingdom has been at the rate of 8,920 a week, equal to the number of inhabitants in a majority of the 368 municipal boroughs of Great Britain. In Scotland and Ireland, the births and deaths of the population are left unregistered, so that it is impossible to determine the rate of natural increase in the United Kingdom; but at the rate prevailing in England, which it cannot exceed, the excess of births over deaths would be 79,820, or less by 36,139 than the 115,959 emigrants.

\* Return with which the Registrar-General has been favoured by the Emigration Commissioners.

*England\* :—Annual Rate, per cent., of Marriage, Birth, and Death, during the Years 1843-53, and the Quarters of those Years.*

Estimated Population of England in thou- sands in the middle of each Year.....	16318	16516	16716	16919	17124	17331	17541	17754	17977	18195	...	18195
YEARS .....	1843	1844	1845	1846	1847	1848	1849	1850	1851	1852	Mean, 1843-52	1853
Marriages.....	·759	·801	·860	·861	·793	·798	·809	·860	·855	·881	·828	...
Births .....	3·232	3·274	3·251	3·385	3·153	3·249	3·296	3·343	3·428	3·472	3·308	...
Deaths .....	2·123	2·161	2·090	2·307	2·472	2·307	2·513	2·078	2·202	2·269	2·252	...
MARRIAGES.												
Quarters ended the last day of												
March .....	·632	·644	·721	·757	·655	·661	·661	·702	·740	·730	·690	·776
June .....	·767	·834	·849	·882	·826	·805	·822	·888	·861	·883	·842	...
September .....	·701	·760	·830	·822	·751	·755	·766	·840	·819	·834	·788	...
December .....	·934	·955	1·038	·983	·940	·961	·986	1·010	1·000	1·038	·985	...
BIRTHS.												
March .....	3·420	3·507	3·491	3·498	3·488	3·252	3·575	3·321	3·569	3·585	3·471	3·581
June .....	3·234	3·334	3·291	3·551	3·265	3·474	3·523	3·530	3·559	3·516	3·428	3·507
September .....	3·114	3·123	3·140	3·251	2·945	3·211	3·056	3·281	3·321	3·294	3·174	...
December .....	3·174	3·115	3·103	3·256	2·938	3·038	3·053	3·253	3·279	3·343	3·155	...
DEATHS.												
March .....	2·373	2·467	2·554	2·157	2·850	2·794	2·462	2·261	2·391	2·364	2·467	2·620
June .....	2·149	2·077	2·144	2·144	2·506	2·313	2·341	2·103	2·228	2·227	2·223	2·383
September .....	1·866	1·913	1·776	2·382	2·163	2·005	3·057	1·917	2·020	2·190	2·129	...
December .....	2·119	2·175	1·908	2·545	2·389	2·108	2·199	2·045	2·182	2·197	2·187	...

\* The table may be read thus, without reference to the decimal points:—In the year 1848, to 100,000 of the population of England there were 798 marriages, 3,249 births, and 2,307 deaths registered. The annual rates of marriage in each of the four quarters were ·661, ·805, ·755, and ·961 per cent.; the rates of death 2·794, 2·313, 2·005, and 2·108 per cent. In reading the population on the first line add three ciphers (000). The three months January, February, March, contain 90, in leap year 91 days; the three months April, May, June, 91 days; each of the two last quarters of the year 92 days. For this inequality a correction has been made in the calculation.

The price of provisions during the quarter was considerably higher than the ruling prices in the corresponding months of the year 1852; wheat was sold on an average at 44s. 6d. a quarter; beef, by the carcase, in London, at 4½d. per pound; mutton, 5½d. per pound; potatoes (York regents) at 127s. 6d. per ton. The price of wheat was 10 per cent., beef, 22 per cent., mutton, 31 per cent., potatoes, 31 per cent. higher in April, May, June, 1853, than in the corresponding months of 1852. It is evident that the price of wheat bears no longer any constant relation to the price of the other chief articles of food consumed by the rich or the poor; and it must be considered a fortunate circumstance that the price of bread is not now likely to fluctuate so largely as the prices of the more perishable articles with which the markets of England are supplied from a comparatively limited area.

STATE OF THE PUBLIC HEALTH.—107,861 deaths were registered in the three months of April, May, and June. This number is the highest that has ever been registered before in the corresponding season, and exceeds by 7,048 the deaths in the spring quarter of 1852. The rate of mortality in England is highest in the winter (2·467 per cent.), lowest in the summer quarter (2·129 per cent.), while the mortality of the spring quarter (2·223) holds an intermediate rank, near the average of the year. This average is exceeded by the present return, which shows a mortality at the rate of 2·383 per cent. per annum; higher than the rate in the corresponding quarter of every year 1843-52, except the Spring quarter of 1847, when the population was infested by scurvy and its attendant diseases, after the great failure of the



potato crop in 1846. The rate of mortality was then 2·506; in the autumn, influenza broke out, and cholera followed on its footsteps in 1848 and 1849.

The mortality of the quarter was above the average both in the town and in the country districts; the annual rate of mortality was 2·606 in 117 districts, comprising the chief towns, and 2·196 per cent. in 508 districts, extending over the rest of the kingdom.

*The Average Prices of Consols, of Wheat, Meat, and Potatoes, also the Average Quantity of Wheat sold and imported Weekly, in each of the eight Quarters ended June 30th, 1853.*

Quarters ended	Average Price of Consols (for Money.)	Average Price of Wheat per Quarter in England and Wales.	Wheat sold in the 290 Cities and Towns in England and Wales making Returns.	Wheat and Wheat Flour entered for Home Consumption at Chief Ports of Great Britain.	Average Prices of Meat per lb. at Leadenhall and Newgate Markets (by the Carcase).		Potatoes (York Regents) per Ton at Waterside Market, Southwark.
			Average Number of Quarters weekly.		Beef.	Mutton.	
1851 Sept. 30.	96½	40s. 7d.	74,714	91,040	3d.—5d. Mean 4d.	3¾d.—5¾d. Mean 4¾d.	90s.—110s. Mean 100s.
Dec. 31.	97⅞	36s. 7d.	109,506	47,986	3d.—5d. Mean 4d.	3¾d.—5¾d. Mean 4¾d.	65s.—75s. Mean 70s.
1852 Mar. 31.	97¼	40s. 10d.	95,532	27,540	3¼d.—5d. Mean 4½d.	3¾d.—5¾d. Mean 4¾d.	60s.—80s. Mean 70s.
June 30.	99⅞	40s. 10d.	87,949	54,675	3¼d.—4¾d. Mean 4d.	3¾d.—5¼d. Mean 4½d.	85s.—110s. Mean 97s. 6d.
Sept. 30.	100	41s. 2d.	78,712	67,912	3¼d.—5d. Mean 4½d.	4d.—6d. Mean 5d.	80s.—100s. Mean 90s.
Dec. 31.	100⅝	40s. 5d.	111,224	72,870	3d.—5d. Mean 4d.	4¼d.—6¼d. Mean 5½d.	90s.—120s. Mean 105s.
1853 Mar. 31.	99⅝	45s. 7d.	95,115	63,530	3¾d.—5¼d. Mean 4½d.	4¾d.—6¾d. Mean 5¾d.	110s.—145s. Mean 127s. 6d.
June 30.	100⅔	44s. 6d.	84,559	82,623	4d.—5¾d. Mean 4¾d.	5d.—6¾d. Mean 5¾d.	110s.—145s. Mean 127s. 6d.

*Note.*—The total number of quarters of wheat sold in England and Wales for the 13 weeks ended September 30th, 1851, was 971,276; for the 13 weeks ended December 31st, 1,423,582; for the 13 weeks ended March 31st, 1852, 1,241,921; for the 13 weeks ended June 30th, 1,143,339; for the 13 weeks ended September 30th, 1,023,251; for the 13 weeks ended December 31st, 1,445,906; for the 13 weeks ended March 31st, 1853, 1,236,493; for the 13 weeks ended June 30th, 1853, 1,099,261. The total number of quarters entered for Home Consumption was, respectively, 1,183,523; 671,803; 358,024; 710,780; 882,850; 947,310; 825,886; and 1,074,095; the second total, however, embraces the returns of 14 weeks.

The population of England is, there is reason to believe, collectively healthier than any equal amount of population in any other kingdom; but the rapid increase in the proportion of the town population—in which the mortality is 27 per cent. higher than it is in the country, and the sickness, the suffering, the debility, the physical degeneracy of race, are in an equal excess—makes this question of the health of towns and the fertilization of the surrounding fields one of the great questions of the day demanding immediate solution. It is difficult for the imagination to conceive all the beneficent effects that would flow from the possible diminution of the mortality which the subjoined figures express in town and in country throughout the changing seasons of the year.

*Deaths in the Spring Quarters.*

	1843	1844	1845	1846	1847	1848	1849	1850	1851	1852	Total. 1843-52	1853
In 117 Districts, } comprising the } chief towns .....	40343	38977	40847	43737	51585	46552	48070	42886	47774	48357	449128	51734
In 508 Districts, } comprising chiefly } small towns and } country parishes }	46891	46360	48302	46494	55133	53178	54083	49989	51865	52456	504751	56127
Total.....	87234	85337	89149	90231	106718	99730	102153	92875	99639	100813	953879	107861

*Population, Deaths, and Mortality per cent. in the Spring Quarters, 1843-53.*

	Population Enumerated.		Deaths in 10 Spring Quarters, 1843-52.	Annual Rate of Mortality of 10 Spring Quarters, 1843-52.	Annual Rate of Mortality in the Spring Quarter 1853.
	June 6-7th, 1841.	March 31st, 1851.			
In 117 Districts, com- } prising the chief } towns .....	6,612,958	7,795,882	449,128	2.471	2.606
In 508 Districts, com- } prising chiefly small } towns and country } parishes .....	9,301,190	10,126,886	504,751	2.067	2.196
All England .....	15,914,148	17,922,768	953,879	2.223	2.383

	Average Annual Number of*		
	Deaths to every 10,000 Persons living in Towns.	Deaths to every 10,000 Persons living in the Country.	Lives Destroyed by the Matters which are Poisons in Houses, Streets, and Streams, but are Fertilizing Manures in Fields.
In the months of			
January, February, March.....	69	56	13
April, May, June .....	62	52	10
July, August, September .....	63	46	17
October, November, December	64	49	15
The Year.....	258	203	55

\* This Table is derived from the returns of the 10 years 1843-52.

In London, the mortality has considerably exceeded the average, and it is chiefly due to diseases of the respiratory organs, typhus, hooping-cough, diarrhoea, and violence of various kinds. 12 deaths were referred to privation, 26 to poison, 88 to burns and scalds, 86 to hanging and suffocation, 81 to drowning, 171 to mechanical injuries of various kinds, 33 to wounds; and in nearly all these cases the numbers exceed those returned in previous years. The violent deaths, including a few from intemperance, want of breast-milk, and privation, in London, increased from 1,296, in 1840, to 2,140, in 1852; and in the last quarter the excess in deaths from violence alone over the deaths of 1852 was 131. The increase of steam-vessels, railways, omnibuses, and new mechanical forces of every kind, as well as the obstructions of the streets, may partly account for this loss of life, as well as for the numerous injuries and mutilations not fatal—in the battle of every day.



## MORTALITY OF THE METROPOLIS.

*A Table of the Deaths in London from all Causes, Registered in the June Quarters of the Four Years, 1850-53.*

CAUSES OF DEATH.	Quarters ended June,				CAUSES OF DEATH.	Quarters ended June,			
	1850.	1851.	1852.	1853.		1850.	1851.	1852.	1853.
ALL CAUSES.....	11,238	13,093	13,173	15,030	III. Scrofula.....	77	115	124	101
SPECIFIED CAUSES.....	11,132	12,956	13,096	14,867	Tabes Mesenterica..	173	190	194	262
I. Zymotic Diseases....	2,032	2,662	2,828	2,979	Phthisis or Con- } sumption.....	1,548	1,815	1,790	1,971
SPORADIC DISEASES.					Hydrocephalus....	320	464	437	468
II. Dropsy, Cancer, and } other Diseases of } uncertain or va- } riable Seat.....	526	547	603	665	IV. Cephalitis.....	137	154	127	152
III. Tubercular Diseases..	2,118	2,584	2,515	2,802	Apoplexy.....	337	313	295	352
IV. Diseases of the Brain, } Spinal Marrow, } Nerves, and Senses }	1,479	1,545	1,461	1,682	Paralysis.....	262	267	233	275
V. Diseases of the Heart } and Blood-Vessels }	472	508	520	612	Delirium Tremens..	41	32	39	42
VI. Diseases of the } Lungs and of the } other Organs of } Respiration.....	1,726	2,117	2,038	2,709	Chorea.....	4	6	3	2
VII. Diseases of the Stom- } ach, Liver, and } other Organs of } Digestion.....	710	797	763	885	Epilepsy.....	64	91	95	118
VIII. Diseases of the Kid- } neys, &c.....	130	156	171	158	Tetanus.....	6	9	11	2
IX. Childbirth, Diseases } of the Uterus, &c. }	122	105	132	99	Insanity.....	31	20	36	32
X. Rheumatism, Dis- } eases of the Bones, } Joints, &c.....	102	101	105	118	Convulsions.....	417	511	466	542
XI. Diseases of the Skin, } Cellular Tissue, &c }	27	23	30	30	Disease of Brain, &c.	180	142	156	165
XII. Malformations.....	43	31	41	44	V. Pericarditis.....	25	32	37	27
XIII. Premature Birth & } Debility.....	238	360	381	356	Aneurism.....	24	14	19	30
XIV. Atrophy.....	239	318	305	479	Disease of Heart....	422	462	464	555
XV. Age.....	484	540	573	532	VI. Laryngitis.....	60	52	64	70
XVI. Sudden*.....	180	105	107	128	Bronchitis.....	696	861	934	1,360
XVII. Violence, Privation, } Cold, and Intem- } perance.....	454	457	443	589	Pleurisy.....	35	35	49	45
					Pneumonia.....	712	909	733	951
					Asthma.....	127	151	139	183
					Disease of Lungs, &c	96	109	119	100
					Teething.....	119	173	146	222
					Quinsey.....	15	11	21	10
					Gastritis.....	22	30	19	19
					Enteritis.....	87	73	84	76
					Peritonitis.....	55	51	50	47
					Ascites.....	21	32	26	43
					Ulceration of In- } testines, &c. .. }	22	23	34	38
					Hernia.....	41	36	27	44
					Ileus.....	36	42	30	42
					Intussusception....	13	10	15	10
					Stricture of the In- } testinal Canal.. }	9	10	16	10
					Dis. of Stomach, &c.	55	63	72	63
					Disease of Pancreas	..	1	..	1
					Hepatitis.....	60	49	47	50
					Jaundice.....	23	45	40	40
					Disease of Liver....	128	144	130	161
					Disease of Spleen..	4	4	6	4
					VIII. Nephritis.....	2	11	4	8
					Nephria (or Bright's } Disease)..... }	34	32	47	26
					Ischuria.....	2	3	2	3
					Diabetes.....	9	10	11	12
					Stone.....	7	9	11	8
					Cystitis.....	10	7	6	9
					Stricture of Urethra	5	7	20	19
					Dis. of Kidneys, &c.	61	77	70	73
					IX. Paramenia.....	3	3	4	3
					Ovarian Dropsy....	15	9	13	11
					Childbirth, see Metria	59	52	76	49
					Dis. of Uterus, &c...	45	41	39	36
					X. Arthritis.....	3	4	3	4
					Rheumatism.....	54	56	58	58
					Disease of Joints, &c.	45	41	44	56
					XI. Carbuncle.....	5	3	8	15
					Phlegmon.....	12	6	8	4
					Disease of Skin, &c.	10	14	14	11
					XVII. Intemperance....	23	16	20	18
					Privation.....	4	5	8	12
					Want of Breast } Milk, see Privation }	32	52	48	62
					Neglect.....	..	..	1	3
					Cold, see Privation..	1	..	5	2
					Poison.....	25	19	19	26
					Burns and Scalds ..	63	48	50	88
					Hanging, &c.....	77	50	78	86
					Drowning.....	61	70	59	81
					Fractures and Con- } tusions..... }	131	159	121	171
					Wounds.....	18	31	19	33
					Other Violence....	19	7	15	7
					Causes not specified	106	137	77	163
I. Small Pox.....	103	209	472	53					
Measles.....	232	495	199	256					
Scarlatina.....	234	169	563	430					
Whooping Cough....	406	734	466	857					
Croup.....	82	67	96	79					
Thrush.....	23	22	23	27					
Diarrhoea.....	200	191	163	292					
Dysentery.....	25	34	35	42					
Cholera.....	9	3	8	9					
Influenza.....	36	108	33	22					
Purpura and Scurvy	13	11	21	13					
Ague.....	3	5	5	9					
Remittent Fever....	27	28	32	31					
Infantile Fever....	10	11	10	11					
Typhus.....	426	428	483	678					
Metria, or Puer- } peral Fever, see } Childbirth..... }	51	30	54	31					
Rheumatic Fever, } see Rheumatism }	16	7	20	21					
Erysipelas.....	103	74	98	74					
Syphilis.....	28	31	43	37					
Noma or Canker, } see Mortification }	5	5	4	6					
Hydrophobia.....	..	..	..	1					
II. Haemorrhage.....	46	49	62	58					
Dropsy.....	191	185	188	215					
Abscess.....	17	23	34	24					
Ulcer.....	8	8	14	17					
Fistula.....	8	4	6	8					
Mortification.....	25	51	34	57					
Cancer.....	219	206	242	270					
Gout.....	12	21	23	16					

\* Under the head of "sudden deaths," are classed not only deaths described as sudden, of which the cause has not been ascertained or stated; but also all deaths returned by the Coroner in vague terms, such as "found dead," "natural causes," &c. &c.

NAMES OF THE PLACES.	Mean Pressure of Dry Air reduced to the level of the Sea.	Mean Tempera- ture of the Air.	Highest Reading of the Thermo- meter.	Lowest Reading of the Thermo- meter.	Mean Daily Range of Temperature.	Mean Monthly Range of Temp.	Range of Tempera- ture in the Quarter.	Mean Temperat. of Evaporation.	Mean Tempera- ture of the Dew Point.	Mean estima- ted Strength.	WIND.		Mean Amount of Cloud.	RAIN.		Mean Weight of Vapour in a Cu- bic Foot of Air.	Mean additional weight required to saturate a cu- bic Foot of Air.	Mean Degree of Humidity.	Mean wholeamt. of Water in a Vertical Column of Atmosphere.	Mean Weight of a Cubic Foot of Air	Height of Cistern of Baromr. above level of the Sea.
											General Direction.	In. Amount collected.		No. of days on which it fell.	In. Amount collected.						
Jersey .....	29.613	51.9	79.0	37.0	15.9-33.0	37.0	42.0	50.1	48.2	1.9	Variable.	5.8	4.5	33	5.8	0.5	0.881	4.8	536	85	
Guernsey.....	29.606	50.5	69.5	37.5	9.7-23.8	32.0	32.0	49.0	47.4	1.5	N.W.	6.6	5.3	32	6.6	0.4	0.889	4.7	537	123	
Helston.....	29.623	53.4	78.0	34.0	14.6-32.3	44.0	44.0	50.1	46.9	1.9	N.W.	8.1	5.5	38	8.1	0.9	0.800	4.7	534	106	
Falmouth .....	..	52.8	79.0	33.0	16.3-34.7	46.0	..	..	..	1.7	N., W., & N.W.	7.0	6.3	44	7.0	..	..	..	..	..	120
Torquay.....	29.591	52.9	75.0	36.0	12.0-30.0	39.0	49.1	49.1	45.2	2.4	Variable.	7.5	..	41	7.5	1.1	0.772	4.4	..	160	
Exeter .....	29.574	52.8	76.7	31.2	16.3-34.9	45.5	49.5	49.5	46.2	1.5	N., W., & E.	7.3	3.7	47	7.3	0.9	0.799	4.5	533	140	
Venitor.....	29.583	53.5	72.0	34.0	10.4-29.0	38.0	..	..	..	..	Variable.	7.4	4.9	49	7.4	0.7	0.885	5.0	533	150	
Newport .....	29.568	51.9	78.2	29.8	17.7-38.8	48.4	48.5	48.5	45.0	2.2	Variable.	8.1	4.9	42	8.1	0.9	0.795	4.4	536	28	
Ryde .....	29.605	52.4	79.8	31.4	19.8-37.1	48.4	48.9	48.9	45.3	0.9	N. & S.W.	8.0	7.0	45	8.0	1.0	0.790	4.4	535	110	
Worthing .....	29.568	50.9	73.8	34.8	10.8-29.1	38.2	48.3	48.3	44.1	1.5	S.W.	7.1	4.5	44	7.1	0.7	0.832	4.5	538	25	
Southampton .....	29.528	52.6	77.8	33.5	15.8-34.5	44.3	49.0	49.0	45.6	0.6	..	8.2	6.8	40	8.2	1.0	0.779	4.4	534	60	
Clifton .....	29.595	50.8	74.4	29.3	16.5-36.6	45.1	47.8	47.8	44.6	1.2	S.W. & N.E.	9.8	5.7	47	9.8	0.8	0.813	4.3	533	228	
Lewisham.....	29.600	52.2	82.0	31.5	18.4-40.1	50.5	48.2	48.2	44.0	0.6	Variable.	7.9	8.0	39	7.9	1.1	0.758	4.3	535	82	
Royal Observatory .....	29.613	51.8	81.0	32.3	18.0-39.0	48.7	47.5	49.0	45.4	..	N.E.	7.5	..	45	7.5	1.2	0.743	4.1	534	159	
Paddington .....	29.587	52.6	80.5	32.0	16.1-37.7	48.5	49.0	49.0	45.4	..	Variable.	6.7	7.6	..	..	0.8	0.822	4.5	534	150	
St. John's Wood.....	29.560	51.4	81.0	29.5	18.7-40.9	51.5	48.6	48.6	45.5	1.8	..	6.7	..	35	6.7	..	..	..	..	190	
Enfield .....	..	51.1	79.0	30.0	15.7-37.8	49.0	..	..	..	..	..	6.7	6.9	37	6.7	1.0	0.777	4.2	533	270	
Rose Hill .....	29.610	50.8	76.0	30.1	18.4-37.6	45.9	47.3	47.3	43.4	2.5	N., W., & E.	8.4	6.9	43	8.4	1.1	0.764	4.4	531	..	
Bicester.....	..	52.8	84.0	31.0	21.1-44.3	53.0	48.8	48.8	44.8	1.4	N., N.E., & S.W.	7.8	6.5	46	7.8	0.9	0.794	4.4	533	210	
Radcliffe Observatory .....	29.592	51.7	76.8	32.2	17.1-36.8	44.6	48.4	48.4	45.7	0.6	N.E., W., & S.W.	8.2	7.2	47	7.9	0.9	0.836	4.5	530	520	
Stone Observatory .....	29.532	51.0	..	29.0	..	..	..	..	..	..	Variable.	..	6.7	..	..	0.7	0.833	4.6	531	250	
Hartwell House .....	29.525	51.6	79.0	30.0	18.8-40.6	49.0	49.0	49.0	46.1	1.2	..	7.9	5.5	48	7.9	0.7	0.835	4.6	531	290	
Hartwell Rectory .....	29.542	51.2	77.3	30.3	18.1-36.1	47.0	48.7	48.7	46.0	0.9	S.W.	8.4	6.5	39	8.4	1.1	0.775	4.5	529	284	
Aylesbury .....	29.591	53.5	80.0	30.0	24.3-41.3	50.0	49.7	49.7	45.8	0.3	Variable.	9.3	6.5	39	9.3	1.1	0.766	4.2	531	313	
Linslade .....	29.605	51.4	81.0	29.0	19.1-41.2	52.0	47.5	47.5	43.5	..	..	7.1	6.4	47	7.1	0.9	0.804	4.4	532	271	
Royston .....	29.607	51.6	81.7	31.4	18.8-42.8	50.3	48.4	48.4	45.0	..	N. & W.	7.1	6.4	59	7.1	0.9	0.794	4.4	535	100	
Cardington .....	29.574	52.0	81.5	29.8	18.4-41.1	51.7	48.5	48.5	44.8	0.8	N.W. & N.E.	7.0	6.8	39	7.0	1.0	0.763	4.2	534	100	
Bedford .....	29.574	51.7	80.0	31.5	17.7-40.8	48.5	47.7	47.7	43.4	0.8	Variable.	6.3	6.2	39	6.3	1.1	0.800	4.3	537	39	
Norwich .....	29.577	50.9	77.0	31.0	15.8-37.5	46.0	47.7	47.7	44.3	1.7	S. & S.W.	5.5	5.2	37	5.5	0.9	0.774	4.2	534	190	
Grantham .....	29.603	50.9	80.8	31.4	16.1-38.7	49.4	47.2	47.2	43.3	light	S.W. & N.E.	3.4	7.1	44	3.4	1.0	0.811	4.3	536	175	
Derby.....	29.651	50.7	76.0	29.0	..	..	..	..	..	..	N.W., E., & S.W.	4.4	5.2	44	4.4	0.9	0.866	4.5	538	39	
Holkham .....	29.579	49.6	77.6	31.0	14.8-35.6	46.6	47.5	47.5	44.2	1.4	Variable.	6.3	8.0	35	6.3	0.6	0.779	4.3	534	204	
Nottingham.....	29.663	51.8	82.0	28.6	21.8-45.3	53.4	48.3	48.3	44.5	0.6	N.E., E., & W.	7.8	6.4	50	7.8	1.0	0.803	4.2	533	260	
Hawarden .....	29.593	50.3	74.0	32.5	13.6-32.2	41.5	47.2	47.2	43.9	1.7	S.W. & N.W.	6.1	4.8	48	6.1	0.9	0.790	4.4	536	30	
Gainsborough .....	29.579	51.7	81.0	32.5	17.3-38.3	48.5	47.1	47.1	44.7	0.4	N., N.W., & E.	6.2	5.8	34	6.2	1.0	0.775	4.1	537	35	
Warrington .....	29.584	50.7	76.2	28.9	17.8-36.6	47.3	48.3	48.3	43.2	0.8	N.W.	6.2	6.5	37	6.2	0.9	0.805	4.5	535	37	
Liverpool .....	29.588	52.4	72.6	35.2	11.5-26.4	37.4	49.2	49.2	45.8	1.0	N.W. & E.	5.7	6.6	38	5.7	0.9	0.717	4.0	534	123	
Manchester .....	29.601	51.9	79.0	28.8	19.5-30.6	50.2	47.1	47.1	42.1	..	N.W.	8.1	6.7	45	8.1	1.3	0.756	4.1	536	115	
Wakefield .....	29.595	51.0	80.2	30.0	19.7-39.8	50.2	47.0	47.0	42.7	1.6	S.W. & S.W.	7.1	6.4	40	7.1	0.8	0.815	4.1	533	381	
Stonyhurst .....	29.602	49.0	76.7	28.7	17.5-36.7	48.0	46.2	46.2	43.0	1.0	Variable.	8.6	..	31	8.6	0.9	0.798	4.2	537	50	
York .....	29.550	50.4	72.5	28.0	16.6-34.8	44.5	47.2	47.2	43.6	..	Variable.	4.8	5.0	37	4.8	0.8	0.817	4.2	536	121	
Newcastle.....	29.595	49.9	..	33.6	..	..	..	..	..	2.0	N.E. & S.W.	5.5	5.0	52	5.5	0.2	0.949	4.4	541	124	
North Shields .....	29.657	47.0	68.5	32.6	10.1-25.9	35.9	46.2	46.2	43.9	1.7	N.E.	3.1	4.4	32	3.1	1.1	0.743	3.8	534	250	
Dunino.....	29.602	49.4	74.0	29.0	16.1-32.3	45.0	45.3	45.3	40.6	..	Variable.	3.4	4.4	..	..	..	..	..	..	..	



## REVENUE.

*Abstract of the Net Produce of the Revenue of Great Britain in the Years and Quarters ended 10th October, 1852 and 1853; showing the Increase or Decrease thereof.—(Continued from page 282.)*

[Compiled from the "London Gazette."]

Sources of Revenue.	Years ended 10th October.			
	1852.	1853.	Increase.	Decrease.
	£	£	£	£
Customs.....	18,713,510	19,075,029	361,519	....
Excise .....	13,370,305	13,743,073	372,768	....
Stamps .....	6,099,717	6,576,089	476,372	....
Taxes.....	3,143,892	3,171,051	27,159	....
Property Tax .....	5,409,355	5,613,546	204,191	....
Post Office.....	996,000	1,041,000	45,000	....
Crown Lands.....	220,000	402,888	182,888	....
Miscellaneous .....	292,295	182,262	....	110,033
Total Ordinary Revenue	48,245,074	49,804,938	1,669,897	110,033
Imprest and other Moneys .	608,670	742,550	133,880	....
Repayments of Advances....	911,673	1,529,681	618,008	....
Total Income.....	49,765,417	52,077,169	2,421,785	110,033
Deduct Decrease .....			110,033	
Increase on the Year .....			2,311,752	

Sources of Revenue.	Quarters ended 10th October.			
	1852.	1853.	Increase.	Decrease.
	£	£	£	£
Customs .....	5,036,809	5,157,476	120,667	....
Excise .....	4,303,755	4,369,229	5,474	....
Stamps .....	1,529,421	1,628,163	98,742	....
Taxes.....	159,215	129,219	....	29,996
Property Tax.....	1,915,581	1,904,043	24,467	....
Post Office.....	261,000	236,000	....	25,000
Crown Lands.....	40,000	50,000	10,000	....
Miscellaneous .....	17,799	40,199	22,400	....
Total Ordinary Revenue	13,263,580	13,490,334	281,750	54,996
Imprest and other Moneys .	137,996	121,757	....	16,239
Repayments of Advances....	234,042	441,254	207,212	....
Total Income.....	13,635,618	14,053,345	488,962	71,235
Deduct Decrease .....			71,235	
Increase on the Quarter .....			417,727	

*Consolidated Fund Operations.*—The total income brought to this account in the quarter ended 10th October, 1853, was 14,684,169*l.* The total charge upon it was 8,944,996*l.*, leaving a surplus of 5,739,173*l.*

## CORN.

*Average Prices of Corn per Imperial Quarter in England and Wales, during each Week of the Third Quarter of 1853; together with the Monthly and Quarterly Average—(Continued from p. 283.)*

[Supplied by the Controller of Corn Returns, H. F. JADIS, ESQ.]

Weeks ended on a Saturday, 1853.		Weekly Average.					
		Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
July	2 .....	s. d. 47 3	s. d. 29 10	s. d. 20 6	s. d. 32 6	s. d. 40 1	s. d. 35 10
	9 .....	47 8	29 2	20 6	35 11	40 8	35 0
	16 .....	49 8	23 11	20 11	34 10	40 5	36 8
	23 .....	51 10	29 4	21 6	35 3	40 4	37 10
	30 .....	52 7	29 7	22 2	36 3	40 5	36 3
Average for July .....		49 9	29 4	21 1	34 11	40 4	36 3
August	6 .....	53 9	29 9	22 6	37 3	40 7	36 10
	13 .....	53 3	30 0	22 3	34 9	41 5	36 9
	20 .....	51 1	29 7	22 0	34 10	40 11	34 9
	27 .....	48 6	29 6	21 6	33 8	41 1	36 6
Average for August .....		51 7	29 8	22 0	35 1	41 0	36 2
Sept.	3 .....	50 4	30 4	21 10	32 3	41 1	37 2
	10 .....	54 9	31 3	21 11	33 6	41 3	37 8
	17 .....	56 7	34 9	20 6	35 7	41 9	39 8
	24 .....	56 7	35 9	21 4	36 9	43 0	41 6
Average for September....		54 6	33 0	21 4	34 6	41 9	39 0
Average for the Quarter ..		51 10	30 7	21 6	34 10	41 0	37 1

*Foreign and Colonial Wheat and Wheat-Flour imported in each of the Months ended 5th July, 5th August, and 5th September, 1853; the Quantities Entered for Home Consumption during the same Months; and the Quantities remaining in Warehouses at the close thereof.—(Continued from p. 283.)*

[Compiled from the "London Gazette."]

## WHEAT.

Months ended	Imported.			Quantities entered for Home Consumption.			In Bond at the Month's end.		
	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.
1853.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.	qrs.
5th July	324,001	7,192	331,193	324,001	7,192	331,193	589	1	590
5th Aug.	680,097	11,641	691,738	680,097	11,641	691,738	589	1	590
5th Sept.	537,094	9,831	546,925	537,094	9,831	546,925	589	1	590

## WHEAT-FLOUR.

Months ended	Imported.			Quantities entered for Home Consumption.			In Bond at the Month's end.		
	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.	Foreign.	Colonial.	Total.
1853.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.	cwts.
5th July	285,083	84,758	369,841	285,085	84,759	369,844	6	7	13
5th Aug.	339,270	39,973	379,243	339,270	39,980	379,250	6	..	6
5th Sept.	343,101	38,511	381,612	343,101	38,511	381,612	6	..	6



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